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Contents:

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" We Seek to Serve and Not to Compete "

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Cover page: *A happy pair of children who symbolise the hope of the Nation. Children's Day which coincided with the 68th Birthday of Nehruji was celebrated all over the country on November 14, 1957. A few articles on the subject are produced in this issue of Madras Information.*

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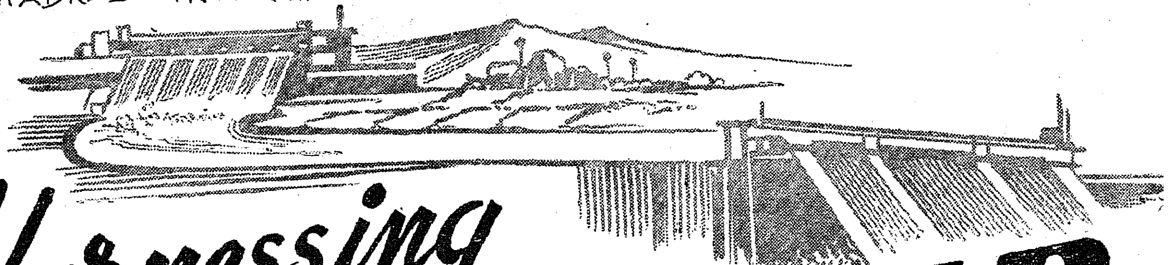


Harnessing PONNIYAR

By SRI U. ANANDA RAU, Chief Engineer (Irrigation).

During the First Five-Year Plan period—April 1951 to March 1956—a number of development projects were taken up and the Sathanur and Krishnagiri Reservoir Schemes on the Ponniyar are among them. Before describing the details of the scheme, it is essential to give a brief description of the river Ponniar, its origin, its course, the area it traverses and where it finally enters the sea.

The river Ponniyar rises in Mysore State in Chennakesava hills, east of Nandidurg. It is there known as the Dakshina Pinakini and this name is thought to have been derived from 'Pinaka', the bow of Siva, because the continuous curve of the two rivers, Northern Pinakini or Pennar and Southern Pinakini or Ponniyar, resembles a bow. This river enters the Madras State territory at a place three miles north-east of Bagalur village of Hosur taluk, Salem district. From here, the river which runs in a south-easterly direction takes a sharp turn and flows in a southerly direction through Salem district. Flowing through deep ravines and narrow gorges, the river enters the North Arcot district. In this district the Ponniyar traverses through thick jungles of the Ponniyar reserve forest and flowing through South Arcot district it finally enters the sea, north of Cuddalore town.

The river from its origin in the Mysore State to its infall into the sea is about 260 miles long of which 53 miles are in Mysore State, 110 miles in Salem district, 21 miles in North Arcot and 76 miles in South Arcot district of the Madras State. In its course through this State, the river has the Aliyalam and Nedungal anicuts in Salem district and the Tirukoilur and Ellis Choultry anicuts in the South Arcot district, which irrigate extents of 4,718 and 35,012 acres in the two districts respectively. There are also several open channels irrigating a total extent of 28,856 acres. The total existing irrigation under the river is therefore 68,586 acres. The supply in it is affected less by the rain which falls locally than by that at its source in Mysore and it comes down in short floods which rapidly dry up again. Because the floods in the river come down with great suddenness and subside rapidly, there is a local saying that "ere butter (vennai) can melt Pennay will rise".

Genesis of projects

The drainage area of the river at the Sathanur Reservoir site including the area intercepted by the Krishnagiri reservoir is about 4,180 square miles and is under the influence of both the South-West and North-East monsoons, the upper reaches getting more flows from the former and the lower reaches from the latter monsoon. The average rainfall is of the order of 30 to 40 inches annually, each monsoon contributing about half the total. Records of flows at the Nedungal and Tirukoilur anicuts revealed that a fairly good quantity of water was running to waste and that it also pointed out to the need for a storage reservoir or reservoirs on the Ponniyar to afford irrigation facilities for the upland tracts in Salem, North Arcot and South Arcot districts and also to stabilise the supplies to existing wet lands.

The idea of building a reservoir on the Ponniyar in North Arcot district is an old one. The earliest suggestion for a reservoir is contained in a letter written by Mr. Dechazel. Later in 1920, Sri R. N. Arogyaswami Mudaliar, the then Superintending Engineer, inspected and selected a site, which was investigated in 1926 by Sri L. Venkatakrishna Ayyar, who drew up rough proposals comprising a reservoir of 11,000 m.cft. capacity and a canal to serve 110,000 acres of irrigated dry crops.

This site is the same as the present Sathanur Dam site. Several modifications of this scheme were examined from time to time, but lack of reliable data on river flows and utilization, consideration of financial return, priority for more attractive schemes elsewhere in the State, all those contributed to this scheme being deferred from time to time. Similarly, the idea of forming a reservoir to benefit areas in Krishnagiri taluk is as old as 1875 when the suggestion was made by one Mr. Thomas, the then Collector of Salem district. The proposal was for a reservoir to benefit 50,000 acres. After investigation, plans and estimate were prepared for a reservoir of 6,000 m.cft. capacity to benefit 15,000 acres, the cost being about Rs. 67 lakhs. But in view of the unreliable nature of the data of river discharge and want of finance, the scheme was abandoned.

Consequent on the general drive to augment food production in the State, these two reservoir projects were taken

up for active consideration by about 1947, and detailed investigation was made and completed in 1949. Permission was accorded by the Planning Commission to include these two projects in the First Five-Year Plan and accordingly Government sanctioned the projects in 1954 for execution.

Krishnagiri Project

Salem district, receiving low rainfalls to the tune of 15 inches during south-west monsoon and 10 inches during the north-east monsoon periods, is rightly relegated to the ranks of dry districts of Madras State and partial failure of crops is by no means uncommon. On a population basis, the Salem district stands fourth in our State. Most of the arable lands are dry and the ryots have perforce been resigned to the vagaries of monsoon, casting longing eyes on the waters of Ponniar flowing year after year through their terrain and practically slipping through their lands without benefiting them. The Aliyalam and Nedungal anicuts across Ponniar within the limits of Salem district, are restricted in scope since they have been designed as diversion works across a river with flash floods.

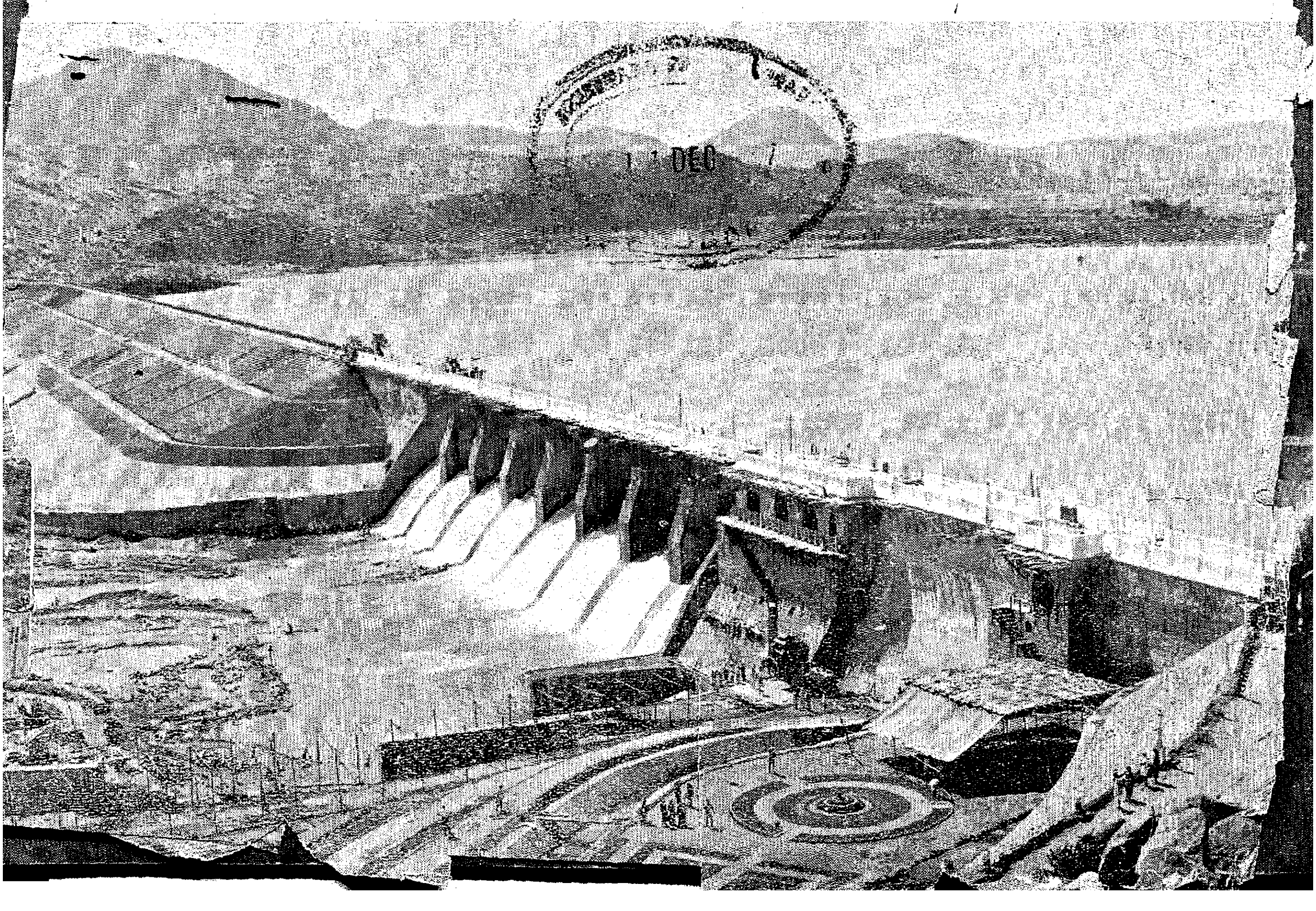
Original proposal.

During the year 1875, Mr. Thomas, the then Collector of Salem district put forth a proposal for a reservoir across Ponniar. According to the preliminary investigation of 1884, the reservoir Scheme was designed to irrigate 50,000 acres at a cost of Rs. 40 lakhs. As the Scheme was based on insufficient data as to the availability of water for the huge acreage sought to be benefitted and as the financial commitment was high the Scheme was dropped. The food scarcity of the postwar era caused the revival of the Scheme in 1947 and it was investigated between the years 1948–49. The scheme in its present form was sanctioned administratively in G.O. No. 4112, dated 23rd November 1954 for 184·03 lakhs and technically sanctioned by the Chief Engineer for Irrigation for Rs. 202·43 lakhs, for immediate execution under the first Five-Year Plan.

The Krishnagiri Reservoir Project is located across Ponniar river, about two miles west of 163/4 of the Madras-Calicut Trunk road in the village limits of Periamuthur and Peyanapalle in Krishnagiri taluk. The reservoir is formed by a dam 3,250 feet long and is of a composite type with 2,339 feet of earth dam in the right flank and 911 feet of masonry on the river bed portion. The spillway portion comprises eight vents of 40 feet span which will be fitted with crest shutters 20 feet high. The storage capacity of the reservoir is 2,410 m.cft. The Project is expected to be successful for 25 years in a period of 30 years.

According to the sanctioned scheme one canal from each of the flanks takes off directly from the reservoir. The left side canal, 10 miles 4 furlongs long will irrigate 3,440 acres and right side canal 9 miles 1 furlong long will irrigate 4,060 acres. The total ayacut under the reservoir, all within the Krishnagiri taluk is 7,500 acres, which includes 2,500 acres under existing wet. Efforts to intensify irrigation and studies conducted for the purpose, have now shown that the ultimate ayacut could be 9,000 acres.

Krishnagiri Dam. The project is nearing completion and waters were let out for irrigation on November 10, 1957.



The construction work on the Project was started with the Inauguration of the Project by Chief Minister Sri K. Kamaraj on 3rd January 1955. The progress on the Project gained momentum almost from its inception and it was maintained at a rapid pace all along. I am happy to announce that 2·6 m.cft. masonry dam and 20 million c.ft. earth dam have been substantially completed. The appurtenant works have been coming up side by side. The crest gates will be erected shortly, with this the reservoir will be completed in all respects. Construction on the two main canals, left and right, was also started simultaneously and they are almost completed now. There are 40 masonry works including four bridges and four superpassages on the left main canal and 33 works which include two bridges and two syphons on the right main canal.

Colony for project staff

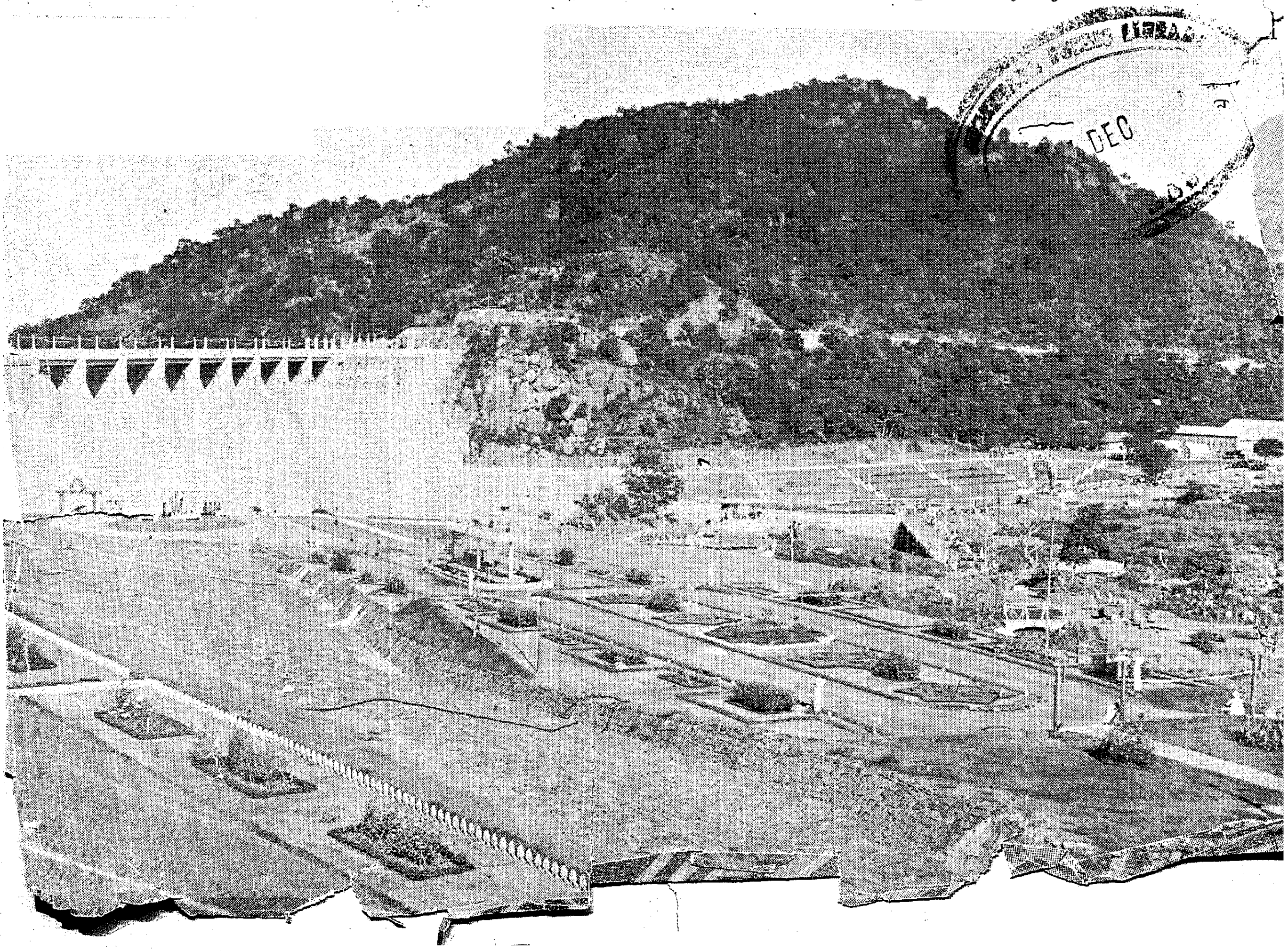
While giving top priority to the project works as such, the welfare of the Project personnel have also been accorded adequate attention. A moderate sized Colony for the Project staff and workers was put up quickly and was made available for occupation. Basic amenities like water supply, electricity and sanitary conveniences have also been provided. Installation of a community radio set and similar amenities have contributed to the zest of the workers. The Project is now attracting a continuous stream of visitors and the well maintained Project House is a welcome feature of this Project.

The most distinguishing feature of the execution of this Project lies in the unique procedure of phasing the construction sequence such that the main work and preliminaries like construction of existing colony, etc. have been done simultaneously resulting in appreciable savings in time and money. By this method the construction period was substantially reduced and it has been possible to complete the Project much ahead of the Programme. This involved no doubt, great strain and sacrifice willingly borne by the Project personnel. As the works progressed, further attention was paid to devise ways and means to speed up the progress of the Project and today, Sir, I am in a proud position to announce the completion of the Project in just about $2\frac{1}{2}$ years after its inception and I assure you, Sir, this speed of construction has been attained in addition to effecting economy all round and with an increase in the scope of the Project.

Rs. 30 lakhs saving

As soon as the Project was started, no time was lost and no energy spared to speedily locate the most economical dam alignment, by considering minor alterations other than the one proposed during the preliminary investigation. Happily, the one finally selected and where the dam has been built has yielded a savings of 10 lakhs in cost. As works progressed, an eye was always kept on economy in big as well as in small items of works, thereby gaining a further savings of 10 lakhs in the headworks and 5 lakhs in canal works. A saving to the tune of 5 lakhs has been effected in the stablishment charges on account of the reduction of construction period from 4 to $2\frac{1}{2}$ years. The ayacut

A panoramic view of Sathanur Dam and the beautiful garden springing up in the foreground



has also been increased from 7 500 to 9 000 acres by a careful lay out of canals and distributaries to secure economy in the utilisation of water. In addition to the benefits to the direct ayacut, the reservoir will also be in a position to stabilise an area of 4 500 acres in Krishnagiri taluk under Nedungal anicut situated 14 miles below the reservoir. The booked expenditure so far on the Project is Rs. 97·03 lakhs with a probable expenditure of Rs. 75·40 lakhs towards land acquisition, crest gates and balance of work, the total expenditure on the Project is expected to be Rs. 172·43 lakhs resulting in a substantial saving of about 30·0 lakhs of rupees.

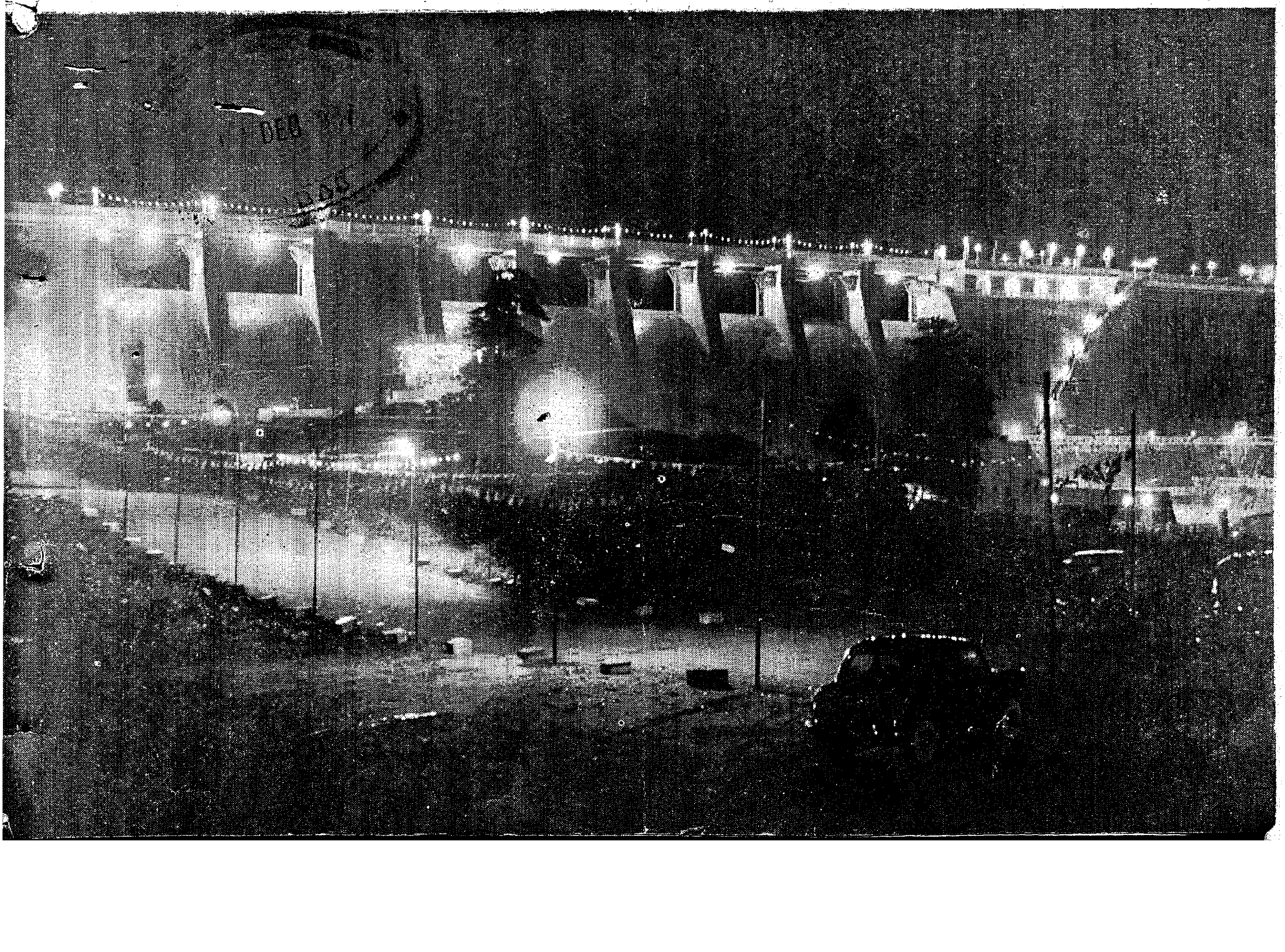
In the execution of the scheme the broader interests of the working masses have always been kept in mind, by employing the machinery to the minimum and that too only in places where human labour was not suited to the nature of work. Most of the work was done on job-work system, thereby eliminating the middlemen's profit. The magnitude of the labour force employed in the Project will be evident from the fact that the Project has so far utilised 2,50,000 skilled labour-man-days and 14,50,000 unskilled labour-man days and the total expenditure so far on labour alone is 30 lakhs and the Project has provided work for more than 5,000 persons daily when the works were in full swing. The sight of hundreds of workmen working on masonry day after day, giving shape to the dam slowly and steadily will ever be fresh in the minds of the Project personnel as indeed it will be for every one who had visited the Project during its construction stages.

It is well known that in the implementation of these Projects, repercussions are inevitable and submersion of villages is inescapable. Special efforts have been taken towards the rehabilitation of 555 families which have been effected in the eleven villages within the submersible area of the reservoir. Each affected pattadar is being allotted on an average three acres of lands in the nearby villages. The affected Harijan families have been provided with 32 quarters with the co-operation of the National Extension Service Scheme.

Sathanur Project.

The average seasonal rainfall over the North Arcot district has been unfavourable to irrigation, being as low as 18 inches during South-east monsoon and even lower viz., 15 inches during the North-east Monsoon. The incidence of crop failures has been quite frequent and resulted in perpetual hardship to the ryots of the district. The existing irrigation facilities in the North Arcot district comprises of off takes from anicuts across Palar, Cheyyar and Poiney and from minor anicuts across smaller rivers besides tank irrigation from a large number of them scattered throughout the district. The system do not benefit the ryots of Tiruvannamalai and Chengam taluks. The ryots of North Arcot district have thus for decades been carrying on their irrigation precariously reconciling their needs to the vagaries of the monsoon. They have had no means to help themselves to the water flowing periodically in the Ponniar traversing through the district. The adjacent taluk of Tirukkoilur in the South Arcot district could also not boast of any assured irrigation

Sathanur Dam was gaily illuminated on November 10, 1957, when waters were let out for irrigation.



in spite of the location of the Tirukkoilur and Ellis Choultry anicuts across Ponniar. This river is too flashy to feed the supply channels taking off from the anicuts to a practical extent.

The plight of the ryots in the rain starved lands in the Tiruvannamalai and Chengam taluks led Mr. Dechazel in the year 1904 to propose a reservoir for utilising the Ponniar waters. Anicut schemes were also investigated from time to time but no scheme ever reached the execution stage owing to several considerations like uneconomical return on outlay, unreliability of flow data in Ponniar, objection by lower down riparian rights, etc. The stagnant state of affairs was happily set right during the post war grow more food campaign drive. A further investigation was taken up in the year 1954. This was quickly followed by the sanction of the Sathanur Project at an estimated cost of Rs. 289 lakhs.

The Sathanur Dam is located at a distance of about 21 miles from Tiruvannamalai town across Ponniar river in a narrow gorge between the Chinnapadi hills on the East and corresponding low range of hills on the west. It is about four miles south-east of Sathanur village situated near mile 5/4 of Thandaramput-Chengam Road. The river drains an area of about 4,200 square miles at the dam site and has a maximum flood discharge of 281,000 cusecs. The reservoir has been programmed for phased construction. In the first stage which has been just now completed, a full reservoir level of +709 00 giving a capacity of 4,600 million cubic feet has been provided. In the second stage which will be in the nature of a future expansion, a full reservoir level of +729.00 will be obtained with the installation of 20 feet crest shutters over the spillway. The capacity will then be increased to 8,100 million cubic feet. The first stage reservoir will submerge an area of 3,100 acres of reserve forest. No inhabited village will be affected by the reservoir waterspread.

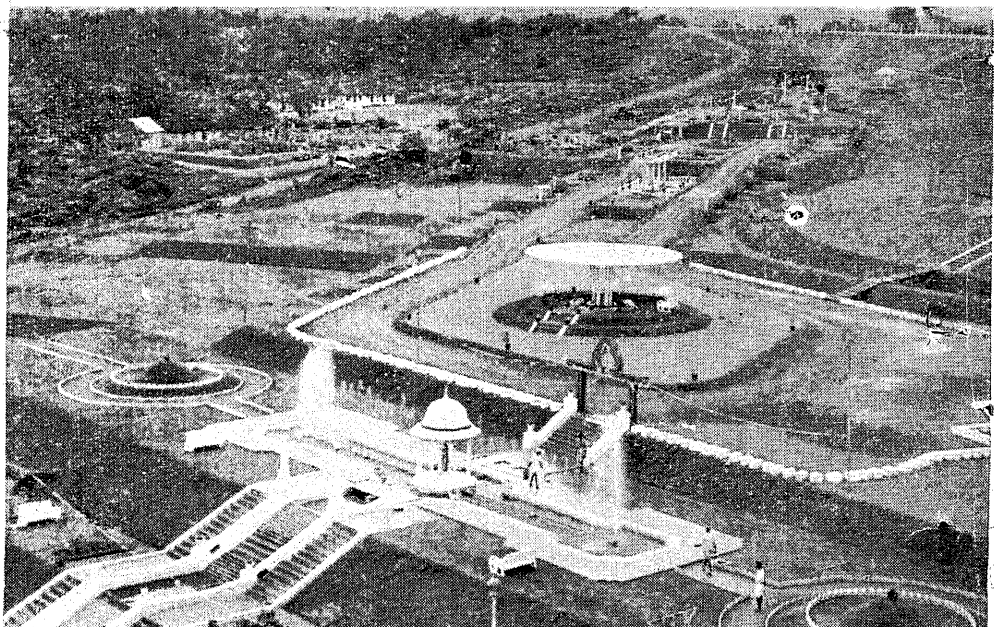
Dimensions of the Dam.

The total length of the dam is 2,580 feet. It comprises of 1,400 feet of masonry dam and 1,180 feet of earth dam. In addition to this, there will be a saddle with dykes on either sides in the right flank for a length of 1,738 feet which includes the abutment portion also. The masonry dam houses the lilapswy section of 432 feet length with nine spans, 40 feet each and eight piers nine feet thick in the middle and non-spillway section of 290 feet at Left Flank and 678 feet at Right Flank totalling 1,400 feet of masonry dam. In the left flank of the non overflow section, a river sluice of five vents, 5 feet × 6 feet has been provided. The height of the dam above the deepest river bed is 135 feet and 167 feet above the deepest foundation. The volume of masonry involved is eight million cubic feet. The maximum height of the earthen dam above the average ground level is 55 feet.

The margin of the river below the dam are rocky and are rugged for a considerable distance downstream, thus rendering the direct take off from the reservoir for irrigation impracticable. Waters from the Sathanur reservoir will, therefore be let down in the river itself and picked up lower down from an anicut. Diversion for irrigation into the Main canal will take off from this anicut through a head sluice. The pick up anicut has been constructed less than a mile upstream of the Olagalapaddy causeway across the river at M. 36/6 of the Tiruvannamalai-Thanipadi Road. The canal was opened for irrigation of a partial nature on 30th October 1956. The length of the pick-up anicut is 430 feet and the maximum height above the foundation is 25 feet. The canal which takes off from the pick up anicut on its left flank is 22 miles long and irrigates 20,000 acres both in North Arcot and South Arcot districts. It is proposed to irrigate 15,300 acres in Tiruvannamalai and Chengam taluks of North Arcot and 4,700 acres in Tirukkoilur taluk of South Arcot district. First eight miles of the Main canal have been lined with 3 inches thick of cement concrete which has resulted in a saving of sufficient water to irrigate an extra area 1,000 acres. Total length of distributaries in both the districts is about 55 miles.

The Project work was inaugurated on October 2, 1954. Right from that date of the project staff have maintained a rapid progress so that today after a comparatively short construction period of just three years, the reservoir involving eight million cubic feet of masonry and 5 3 million cubic feet of earth along with appurtenent works has been completed. The 22 miles long Main canal, 55 miles of distributaries and innumerable cross drainage works have almost been completed. While maximum concentration was directed towards works, the welfare of the Project personnel was not allowed to suffer in any way.

Lay-out of the beautiful garden near Sathanur Dam, which may in the course of time



The colony for Project staff and workers sprang up in a short time with all amenities like water supply, electricity and sanitary convenience. Community Radio set and allied recreational facilities have helped to ease the monotony of the workers. The large project house which stands amongst picturesque mountainous surroundings and luxurious vegetation and the vast expanse of the reservoir, the lay out of the lawns and the parks will continue to attract a lot of people.

In minimum time.

The outstanding feature of the Project is that the sequence of execution was so planned as to secure maximum progress in a minimum time without in any way sacrificing the quality of work. The main works were started at several points simultaneously as also the preliminary work of colony construction. This method called into play, utmost effort and constant watch in co-ordinating activities at several points, unlike the traditional method which followed the safe method of proceeding from one item to another in the usual sequence of construction. Further as the Project progressed ways and means were devised in the light of the experience gained with a view to speeding up the progress of the work and economising in cost. Instead of straightway following the alignment approved in the preliminary investigation, an opportunity was taken at the commencement of the target period to secure the best possible alignment by suitable adjustments with the information gathered during the clearance of site and exploration of foundation. Savings to the tune of rupees six lakhs was effected in the choice of the final alignment. At no stage of the progress of work were the efforts to economise the construction cost relaxed. This has resulted in savings of Rs. 30 lakhs in the Headworks and Rs. 10 lakhs in Canal works. The savings in establishment charges amount to 7½ lakhs on account of the Project being completed within three years against the scheduled period of four and half years. The total savings of nearly a sixth of the estimated cost of Rs. 289 lakhs is an achievement which has contributed to the austerity measure in an appreciable manner. This has been made possible due to co-ordinated combination of the various links of the department, viz., the Research, the Designs and the Project branches.

prove an ideal spot for holiday makers.

In these days of controversy on the adoption of mechanical means of execution of works in a country where man power is available in plenty, a judicious combination of men and machinery was followed in the Sathanur Project, paying utmost consideration for the utilisation of man power. Only where human labour was handicapped for specialised works were machines allowed to step in. This policy together with the policy of direct engagement of petty job workers on a big scale, enabled the project to maintain a high employment potential in the backward area of North Arcot district. The projects has so far obtained 20·65 lakhs of unskilled labour man days with a total disbursement of Rs. 50 lakhs on labour alone. At the peak activity of the Project, the impressive sight of 8,000 labourers moving about on work against the background of the gradually rising structure of the dam resembled swarms of gigantic bees gathering about the formation of a big beehive.

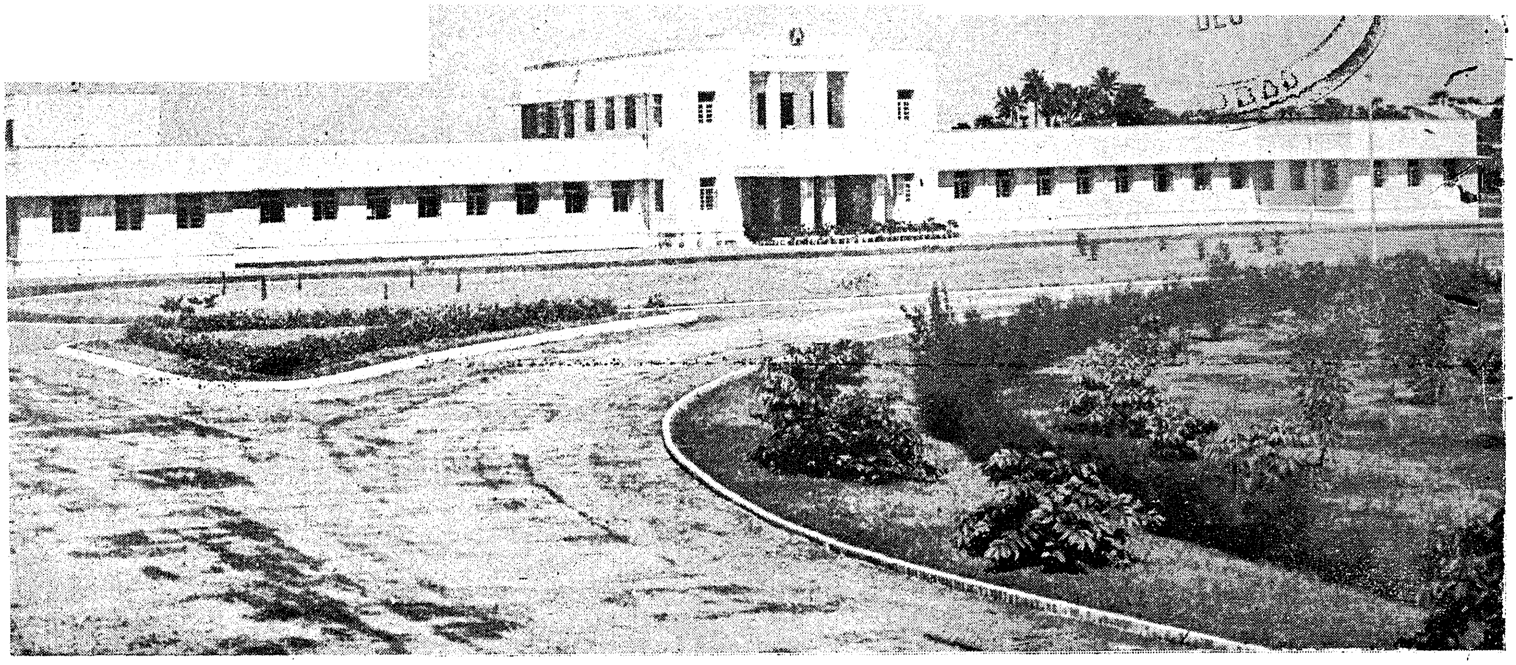
No hardship to people.

Another unique feature of the Project is that the entire project site lies in reserve forest area and thus the construction of this Project has not in any way caused any hardship to any section of the people, as in the case of other projects which are faced with the problem of rehabilitation of persons displaced from the waterspread areas.

The project staff did not stint under the ardous nature of execution based on the job work system but carried on with excellent team spirit and enthusiasm. The workers displayed a high morale and toiled cheerfully and diligently. All of them have reaped the concrete reward of having completed the dam in a record period of three years with a total savings of Kupees 40 lakhs on works alone.

Amaravathi Main Canal Opened

The Government have opened the Amaravathi Main canal, for the first time from 15th November 1957. The canal will remain open till about 28th February 1958. The 39-mile stretch of the canal will irrigate 6,318 acres in Udumalpet taluk and 5,504 acres in Dharapuram taluk. Only irrigated dry crops are to be grown in the area.



Better and Cheaper Roads

Aim of Highways Research Station

By Sri K. K. NAMBIAR, Chief Engineer (Highways).

We live in a period of wonderful inventions. Far more things have been invented in our age than in the past two thousand years. What were mere wishful-dreams of the past, have actually materialised in our time. We cross our continent in the light of one day. Supersonic speeds have already become common. Man has probed into the mysteries of atom, which unfolds an almost unlimited source of energy for his requirements. It is really astounding to think of the achievements in the field of science. The promise of tomorrow is even greater. The first man made Satellite to encircle the world was launched only on 4th October. Now in quick succession, a second Satellite of much greater weight has already been launched on 3rd November and is now encircling the world at a much higher attitude, that too with a living creature on board with good chances of its being recovered alive. With such space travels already accomplished a journey to the moon appears a practical proposition in not too far distant future. All these achievements go to prove the fact that the intelligence of man is superior to the forces of nature and that he can overcome and control them to serve his own purpose. But such achievements would not have been possible but for systematic scientific research, carried out through years.

Research is all the more necessary in this era of ours when things are changing fast. No one would deny that in times of change those fare best, who are prepared. Most fortunate are those who can, with their foresight, judgment and skill anticipate the directions of change. These attributes depend on superiority of knowledge which is just what is to be gained by research. Research is not merely a static collection of facts and principles but a developing adventure of thought. It is truly stated that one test in a research laboratory is better than thousand expert opinions.

A research worker like all men who pursue an ideal, will need moral qualities even more than imagination, intelligence or knowledge : probity, sincerity towards himself and others, tenacity, courage, faith in himself and in his work, passion for and pride in his task. In the words of Francis Bacon, a research worker should have

"The desire to seek,
The patience to doubt,
Fondness to meditate,
Slowness to assert,
Readiness to reconsider,
Carefulness to dispose and set in order
And hating every kind of imposture."

In short, a research worker should "apply himself to his work with a pure heart and all the forces of his soul."

Status of research worker

There is a general shortage of efficient research workers. Though the engineering colleges and allied institutions in our country are turning out annually a large number of engineers, only a few of them make research as their career. It is also unfortunate that most of the brilliant students prefer to go to other vocations rather than to research. More alluring prospects are offered to young men in other walks of life than in research, though the latter involves a more diverse and comprehensive education. Therefore it is time that necessary steps are taken

to make the conditions and prospects of research workers as attractive as possible, so that brilliant young men will devote themselves to research work.

Road research

The origin of roads dates back to prehistoric times. The roads that we have inherited and are now in our possession, are the result of the patient work done by Highway Engineers for the past 2,000 years. Progressive improvements have been made from time to time to the type and design of the road. Yet the rate of improvements to the roads can hardly keep up with the rapid strides with which the modern motor transport is growing in this country. It is often found that our road system constructed and maintained on traditional methods is inadequate for the demands of modern vehicles with their ever increasing speeds and weights, with the result that these vehicles are not used to the full advantage. These conditions must be changed by evolving new ideas and new technique in road construction so that a time will come when, instead of designing the vehicles to suit the roads, the roads can be designed to suit the most advanced type of vehicles. This can be accomplished only by sustained research in laboratories and test tracks.

Categories of research

There are various categories of research conducted in the field of science (i) *fundamental research* which aims at acquiring an understanding of the inner nature of physical phenomena without reference to any practical problem ; (ii) *basic research* aiming at a study of physical phenomena to such a degree that the circumstances in which they will occur and their nature and effects can be predicted, desirably in quantitative terms and finally (iii) *applied research* aiming for the solution of a particular problem of practical importance. It is the last kind of research, i.e., applied research, that is proposed to be conducted here for solving the problems of practical importance connected with Highway Engineering.

The primary function of the Research Station will be to cheapen the cost of construction and maintenance of roads and bridges.

The work of the Research Station is divided into roughly four sections (1) Physical Division which will deal with the physical properties of road materials, surface characteristics and safety problems of roads and tests thereon ; (2) Concrete Division which will deal with all problems of concrete road construction ; (3) Bituminous Division which will deal with research on Bituminous products used for road construction and other problems connected with bituminous road construction ; (4) Soils Division which will deal with the mechanical and physical properties of soils and other problems connected with foundations of roads and bridges.

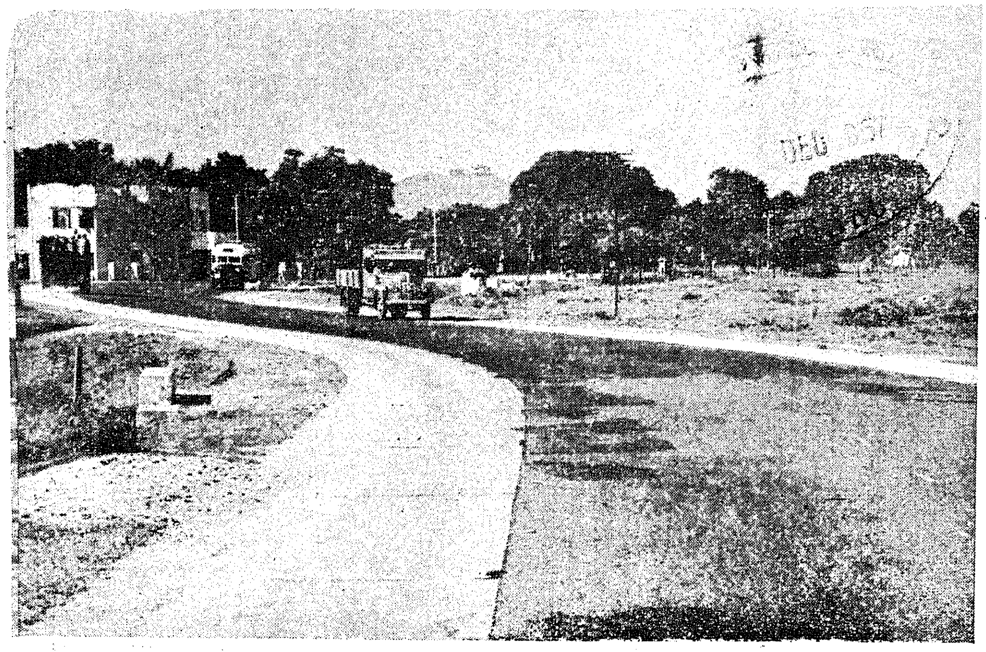
In addition to the vast amount of routine testing conducted, the department will have always in progress several special investigations or research problems in the effort to improve methods of testing, to determine the suitability of proposed revisions of existing specifications, and to arrive at satisfactory specifications, for new materials.

Much of this work will be conducted in co-operation with other highway laboratories, the Central Road Research Institute and the Indian Roads Congress. The Research Station will also maintain a library and publication section with a necessary indexing service to collect and disseminate technical data concerning roads. It will also arrange for refresher courses and impart advanced training to the departmental officers and men.

Highways Research Station

The basic problems are essentially the same in all countries, although differences in climatic conditions may well throw the emphasis in different directions in different areas. For example the foundation problems in the Gangetic plains of U.P. and Bengal, deficient in road stones, and in Assam subject to heaviest rains are very different from those of Madhya Bharath with black cotton soils ; areas with heavy rain-falls will have skidding problems that hardly occur in areas of no or little rain-fall ; areas deficient in good road stone will have special surfacing problems that may not arise in areas with good road stones as in

Sri K. Kamaraj, Chief Minister, declared open the Highways Research Station on November 14, 1957. Sri S. K. Chettur, Secretary, Public Works Department, Sri K. K. Nambiar, Chief Engineer (Irrigation) and Sri Ramaswami Reddiar (extreme left), Director of the Research Station are also seen in the picture.



A conphalt road for high speed and heavy traffic.

our State. Naturally with such varying conditions, of climate, terrain and traffic obtaining in this sub-continent of India several Road Research Stations have to be started to serve various zones, charged with the task of investigating problems peculiar to the respective areas. This Research Station will serve such a purpose in the South. Proposals for establishment of this Research Station was put before the Government of Madras on 11th June 1951, and the Government of India agreed on 8th June 1952 that the entire expenditure for building and equipping the Research Station, then roughly estimated to cost Rs. 10 lakhs being charged from the Central Road Fund allocations to Madras and also agreed for giving a recurring grant of not exceeding Rs. 15,000 every year from the Central Road Fund Reserve to cover the works expenditure for this Research Station in the matter of experimentation and testing.

The foundation stone of this building was laid by Sri Shri Prakasa, the then Governor of Madras, on 3rd February 1956, and the work was commenced immediately after the sanction was communicated in April 1956. The work has been successfully completed in quick time, despite adverse conditions of foundation soil.

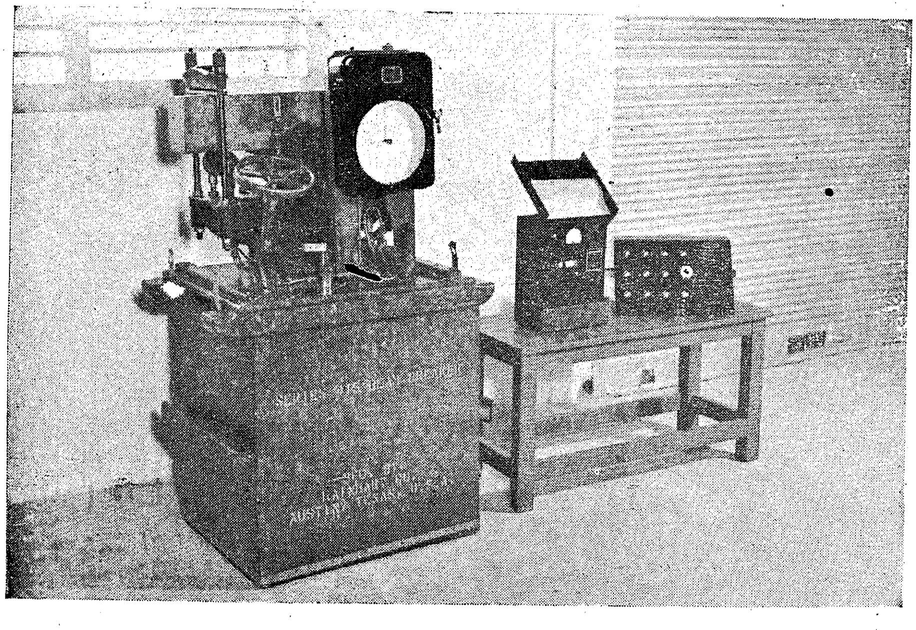
The building which houses different sections of the Research Station consists of nine blocks, four main testing laboratories being set up in the spacious halls 110 feet × 30 feet in the rear. The front section contains the Library, Indexing Room, Auditorium, Administrative Offices and Model Room. One of the Laboratory halls is provided with a basement section to store all the specimens and other samples.

Details on cost of Highways Research Station Scheme is furnished below:—

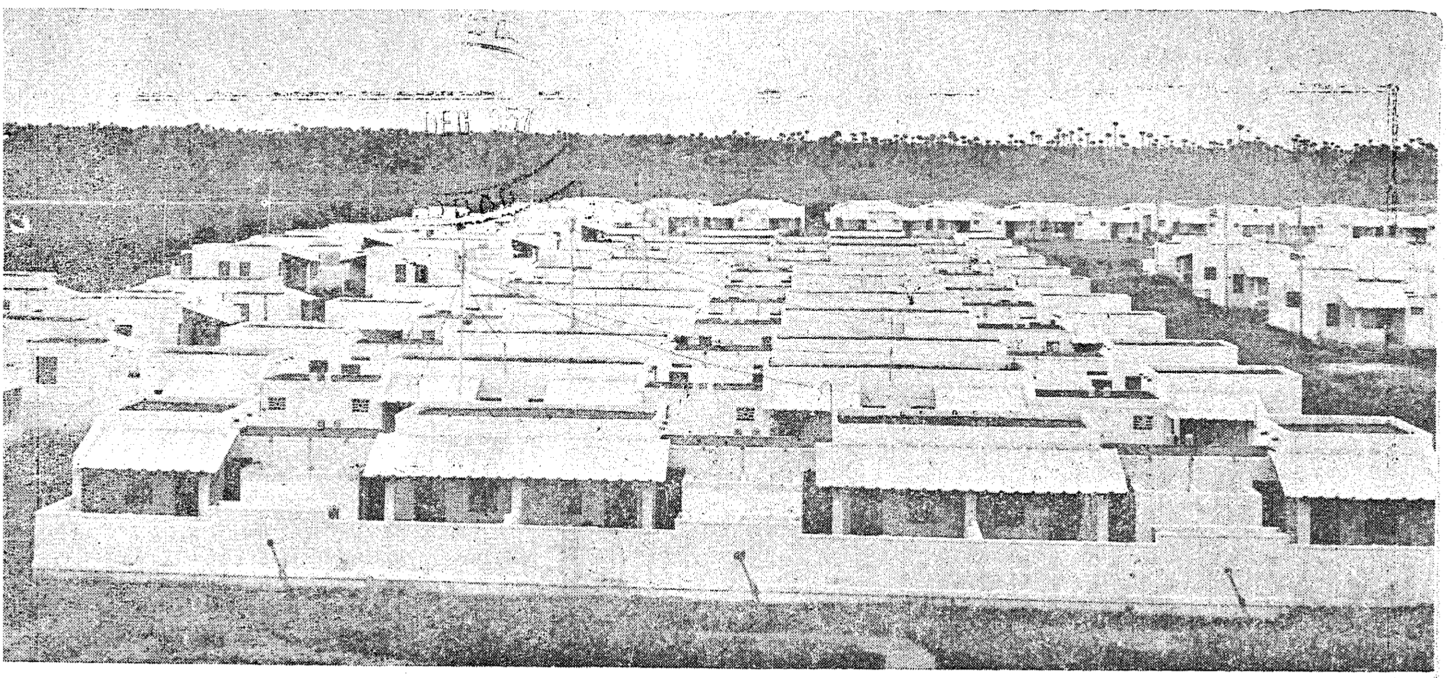
	RS.
(1) Land: 23·53 acres ..	2,35,000
(2) Highways Research Station Building.	9,18,000
(3) Electrification, water-supply and sanitation.	1,18,500
(4) Initial equipment, equipments for the photographic and duplication section, books for the Library and furniture for office and Laboratories.	3,20,500
(5) Miscellaneous expenditure like purchase of Pickup van, tell-tale clocks, internal telephone system, road work, gardening and nursery, etc.	98,000
(6) Barbed wire fencing.	10,000
Total ..	17,00,000

Though the building work has been completed, we are very much handicapped for equipping the different laboratories as most of the equipments have to be imported from abroad due to international situations like the Suez Crisis combined with the import restrictions of the Government of India, the firms could not keep up the time schedule to supply the equipments. In spite of all these difficulties, some essential equipments have already been secured.

Due to the import policy of the Government of India, most of the equipments expected long ago have not yet been received; since the progress and success of our National Plan depend mostly on the progress of scientific research, arrangements should be made to give top priority for the import of scientific equipments for the research laboratories. It may be stated that a beginning has already been made in the Research Station with a few schemes sanctioned by the Government of India.



Beam Breaker with strain gauge instrument in the Research Station.



Sarma Nagar at Erukancheri

Second State Sponsored Labour Housing Colony

One more Industrial Labour Housing Colony built under the auspices of the State Government at Erukancheri and named after the renowned labour leader the late Sri P. R. K. Sarma, was declared open for occupation in the second week of this month. The housing colony which has 450 houses was built along with 'Thiru Vi. Ka. Nagar' at a cost of Rs. 12·46 lakhs. Sri K. Kamaraj, Chief Minister, declared open the colony during the second week of November and Sri R. Venkataraman, Minister for Industries and Labour presided over the function.

As is well known, the late Sri P. R. K. Sarma was one of the pioneers of the trade union movement in this State. He was connected with a large number of trade unions such as the Western India Match Company Labour Union, the P.W.D. Workers' Union, the I.L.T.D. Staff Union, etc. In 1937 he was elected to the Madras Legislative Assembly in one of the six seats reserved for labour. In 1945 he represented Indian Labour in the International Labour Conference held in Paris. In 1946 he was nominated to the Madras Legislative Council. He had done a great deal to safeguard the interests and welfare of workers in Madras.

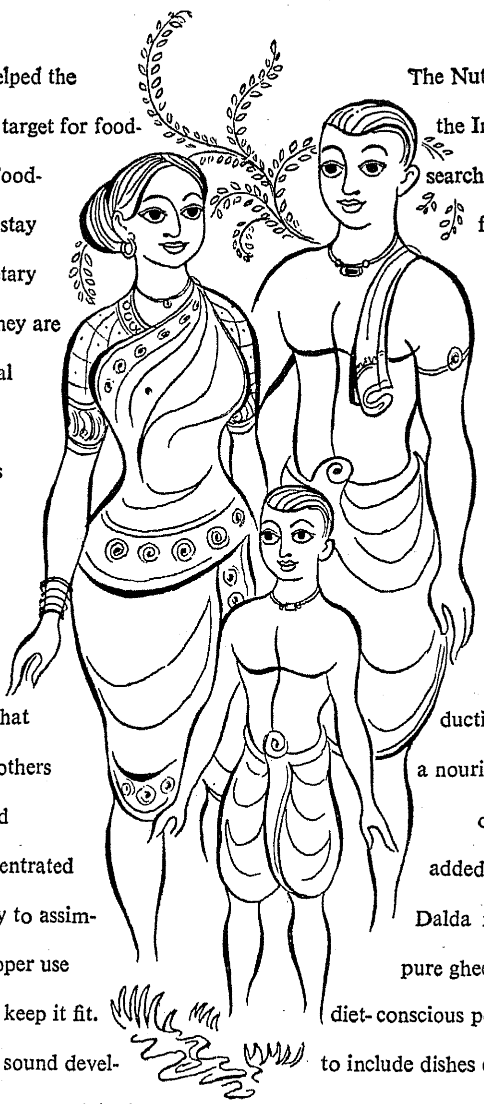
The provision of housing facilities is one of the very important welfare measures for industrial workers in which the State and Central Governments have been taking special interest since the advent of independence. Healthy housing conditions have far-reaching effects on community life, on levels of productivity, and on the welfare of the general public. The housing problem has assumed tremendous importance in recent years. The increase of urban population has accentuated the gravity and vastness of the problem. Consequently, it became necessary for the Government to prepare suitable scheme for the provision of houses for the benefit of industrial labour. As the resources of the State Governments were not sufficient to shoulder this responsibility exclusively by themselves, necessary financial assistance was offered to them by the Government of India as early as 1949 in the shape of loans and subsidies. This financial assistance was also offered to the Housing Boards, Co-operative Societies and private employers so as to encourage them to undertake construction of houses for the benefit of their workers. Under the Subsidised Industrial Housing Scheme sponsored by the Government of India which is now in force, the State Governments and Statutory Housing Boards are granted 50 per cent of the approved ceiling cost of the land and building as loan and the remaining 50 per cent as subsidy. Private employers are granted 37½ per-cent as loan and 25 per cent as subsidy and Co-operative Societies are granted 50 per cent of the cost as loan and 25 per cent as subsidy.

A number of private employers have so far taken advantage of the Scheme. The Government of India have made a provision of Rs. 55·10 lakhs for schemes for the construction of houses for private industrial workers during the period of the Second Five-Year Plan. The State Government have decided to utilise this provision for housing schemes to be undertaken departmentally on lands obtained from the employers free of cost. There has been a good response from the employers in the matter of donation of lands.

The Thiru Vi. Ka. Nagar Colony and this colony have been constructed by the Government with the financial assistance of the Government of India under the Scheme. There are 936 houses in both these colonies which have been put up on the lands purchased from the Management of the Buckingham and Carnatic Mills. The Government of India agreed to sanction a

Continued on page 25

A plan for your health



The first Five Year Plan helped the farmers of India to exceed the target for food-grains by three million tons. Food-grains are, of course, the mainstay of our diet; but health and dietary experts point out that unless they are supplemented by other essential nutrients, our diet lacks the proper nourishment to keep us healthy. A *balanced diet* is a necessary part of any plan for the health of the nation.

Fats and vitamins are two of the five essential food factors that make up a balanced diet. The others are proteins, carbohydrates and minerals. Besides being a concentrated energy food, fats help the body to assimilate other foods and make proper use of them to build the body and keep it fit. Vitamins are necessary for the sound development of bones, muscles, nerve and brain tissue. Each vitamin imparts its special benefit —Vitamin A prevents night blindness, resists colds, keeps the eyes and skin healthy; Vitamin D (the 'Sunshine' vitamin) prevents rickets and softening of the bones.

The Nutrition Advisory Committee of the Indian Council of Medical Research recommends at least 2 oz. of fat per day for adults, whereas the average consumption of fat per adult per day is only about ½ oz. in this country. It is therefore heartening to note that Vanaspati manufacture has increased by about 1 lakh tons between 1950 and 1955—thus making a valuable contribution to the total production of fats. Dalda Vanaspati is a nourishing fat made from vegetable oils and has Vitamins A and D added to it; in fact, every ounce of Dalda is as rich in Vitamin A as pure ghee. That is why more and more diet-conscious people are planning their meals to include dishes cooked with Dalda Vanaspati, because they know that it adds to the food value of every dish. Untouched by hand during manufacture, Dalda comes to you fresh in sealed tins — with the familiar palm tree emblem which is your guarantee of a nourishing fat.

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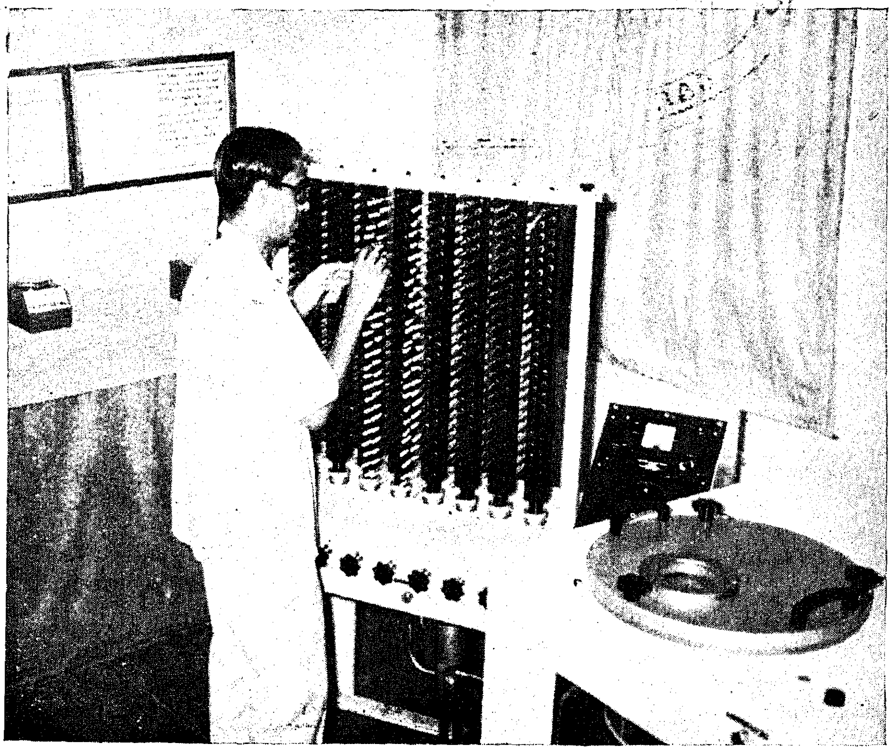
SILVER JUBILEE OF RANIPET VETERINARY INSTITUTE

By Sri S. VANCHESWARA IYER, Superintendent, Institute of Veterinary Preventive Medicine.

Early History.—The prosperity of an Agricultural Nation like India depends primarily on its good and healthy livestock and it is one of the important duties of the Animal Husbandry Departments in the States to protect and preserve them from the ravages of various contagious and infectious diseases. Prior to 1932, the biological products necessary for this purpose in the Madras State were being obtained from the Indian Veterinary Research Institute, Mukteswar, situated about 1,500 miles away from Madras. About this period, Rinderpest, the most serious of all cattle diseases, was raging in a severe form in many parts of the State taking a heavy toll of livestock and causing great economic distress to the ryots. It was found extremely difficult to get sufficient stock of Anti-Rinderpest Serum in time from the Indian Veterinary Research Institute to control these outbreaks promptly and hence the Government of Madras, considering the seriousness of the situation, decided to have the necessary serum manufactured at Madras itself. For this purpose, experimental studies were commenced at the Madras Veterinary College and finding that potent Anti-Rinderpest Serum could be prepared here successfully, Government sanctioned in 1932 the establishment of a "Serum Institute" at Madras, as a temporary measure for a period of 3 years. A portion of the lands and buildings originally known as "Slater Hostel" in Perambur Barracks opposite to the Carnatic Mills was made available for the purpose. After carrying out some additions and alterations to make the buildings suitable for a Laboratory and providing necessary accommodation for housing livestock, etc., the Serum Institute was established in these buildings in July 1932, and Sri K. Kylasam Iyer, a Senior Officer of the Department was appointed as the first Superintendent. A staff of 7 Veterinary Assistant Surgeons, 9 attenders, 4 clerks, a carpenter and a number of peons and mazdoors were also sanctioned.

With the establishment of the Institute at Madras, it was found possible to manufacture and supply sufficient quantities of Anti-Rinderpest Serum and Rinderpest Virus in time and at a cheap cost to control effectively the outbreaks of Rinderpest in the different parts of the State.



Freeze Drying Machine used for the preservation of sensitive biological materials.

At this time, studies were also initiated at the Institute to passage the bovine strain of Rinderpest Virus serially into local goats with a view to attenuate it and free the Rinderpest Virus from secondary protozoon parasites. A considerable degree of success was achieved in this attempt.

Encouraged by the results obtained, the Government sanctioned in 1935 the continuance of the Institute for a further period of two years up to 31st March 1937 and also sanctioned the manufacture of the Anti-Hæmorrhagic Septicaemia Serum and Hæmorrhagic Septicæmia Vaccine at this Institute for the control of Hæmorrhagic Septicaemia among cattle and buffaloes in the State. Two more Veterinary Assistant Surgeons with necessary staff were posted for this purpose.

In order to arrive at a correct idea of the advantage to Government by maintaining this Institute, Government ordered in 1935 that pro forma cost and commercial accounts should be maintained at the Institute and the manufacturing cost of each product worked out.

The Anti-H. S. Serum and H. S. Vaccine manufactured at the Institute were also found to be quite potent and efficient and their manufacturing cost was found to be much lower than the prices prevailing at the Indian Veterinary Research Institute, Mukteswar, and other places.

Encouraged by the results obtained and convinced of the economy and usefulness of maintaining this Institution, Government in 1937 extended its continuation for a further period of two years.

The manufacture of Anti-Rinderpest Serum, Rinderpest Bull Virus, Rinderpest Goat Virus, Anti-Hæmorrhagic Septicaemia Serum and Hæmorrhagic Septicaemia Vaccine was continued. To cope up with the increasing activities of the Institute and to provide additional accommodation for the laboratory and animals, the adjoining lands and buildings on the Cooks Road, belonging to the Labour Department were transferred to this Institute. The buildings were remodelled and equipped with necessary apparatus and furniture. Additional cold storage facilities were provided and more sheds were constructed to accommodate the large number of animals.

Government, convinced of the good and useful work carried out at the Institute and the economic benefits derived from it both by themselves and the livestock owners in the State, ordered its permanent retention in 1939.

In addition, Government sanctioned the manufacture of some more biological products like Anti-Black-Quarter Serum Black-Quarter vaccine, Bovine Lymphangitis Vaccine, Fowl Pox Vaccine, Fowl Cholera Vaccine and Fowl Cholera Serum. The manufacture of these products was taken up early in 1940 and the appointment of two more Veterinary Assistant Surgeons was sanctioned to cope up with this increased work.

Shifting to Coimbatore.

In the early part of 1942, when the Institute was steadily expanding its activities and becoming more and more useful to the livestock owners of the State, it had to be shifted to Coimbatore as an emergency measure due to war. At Coimbatore, the Institute was located in a portion of the Agricultural College estate, where it functioned for a period of nearly 6 years continuing its activities on a restricted scale due to limited accommodation and inadequate facilities. Repeated efforts made in this period to return to the original buildings at Madras or to have new buildings constructed in or around the City of Madras to house the Institute proved futile. The original buildings at Madras were sold to the Buckingham and Carnatic Mills by the Government of Madras. Coimbatore being located in one end of the State, some difficulties were experienced by the staff working in the northern parts of the State in getting timely supplies of Anti-Rinderpest Serum and Virus to control outbreaks of Rinderpest promptly. To overcome this difficulty a sub-station for the manufacture of Anti-Rinderpest Serum and Rinderpest Goat Virus was established at the Madras Veterinary College in 1944. This sub-station manufactured and supplied Anti-Rinderpest Serum and Rinderpest Goat Virus to the areas now transferred to the Andhra State.

New Premises.

The question of providing permanent accommodation for the Institute was engaging the serious attention of the authorities for a considerable time and when the present buildings at Ranipet originally constructed for a Meat

Dehydration Factory by the Government of India became available, the State Government were pleased to acquire the same under the Post-War Reconstruction Scheme and the Institute was shifted to these buildings during March 1948. The present premises has an area of about 100 acres of land with residential accommodation for the majority of the staff working in this Institute. The water-supply to the premises is made by Messrs. Parry & Co., Ranipet. The Institute is situated in the place known as Karai Maidan on the outskirts of Ranipet Town and is about 71 miles away from Madras. Since moving into the present premises, some additions and alterations were made to the main buildings to make it suitable for accommodating the different sections of the Institute. The land round about has been levelled and provided with a fencing and a number of trees have also been planted. Some additional furniture, equipments, cold storage facilities and a well equipped library with a number of periodicals and latest reference books have also been provided.

The Veterinary Disease Investigation Section consisting of three Gazetted Officers and their staff which was functioning at the Madras Veterinary College was transferred to Ranipet in the year 1948 and they were provided with necessary accommodation and facilities in the Institute buildings.

The sub-station at Madras was also closed and brought to Ranipet during the year.

After occupying the present buildings at Ranipet, in addition to manufacturing and supplying the different biological products in sufficient quantities, research studies were commenced to produce suitable vaccines for the control of Sheep Pox and Enterotoxæmia in sheep which were causing heavy economic loss to the people in the State.

Consistent with the nature of work carried on at the Institute, the name of the Institute was changed in 1950 from "Serum Institute" to "Veterinary Biological and Research Institute" Ranipet.

To cope up with the increased work due to the expanded activities of the Institute, a post of Research Officer was created in the year 1951, to assist the Superintendent in the administration, manufacture of biological products and cognate research activities.

With the appointment of the Research Officer, work on the research side was intensified and studies commenced on (1) the experimental manufacture of Anti-Anthrax Serum and Anthrax Spore Vaccine for the control of Anthrax among livestock, (2) preparation of Brucella Abortus Vaccine and antigens for the diagnosis and control of Brucellosis among cattle and (3) the manufacture of chick embryo adopted Fowl Pox and Pigeon Pox Vaccine for the control of Fowl Pox among poultry. Considerable success was achieved in these items of work and the laboratory and field trials with the products evolved, proved highly satisfactory.

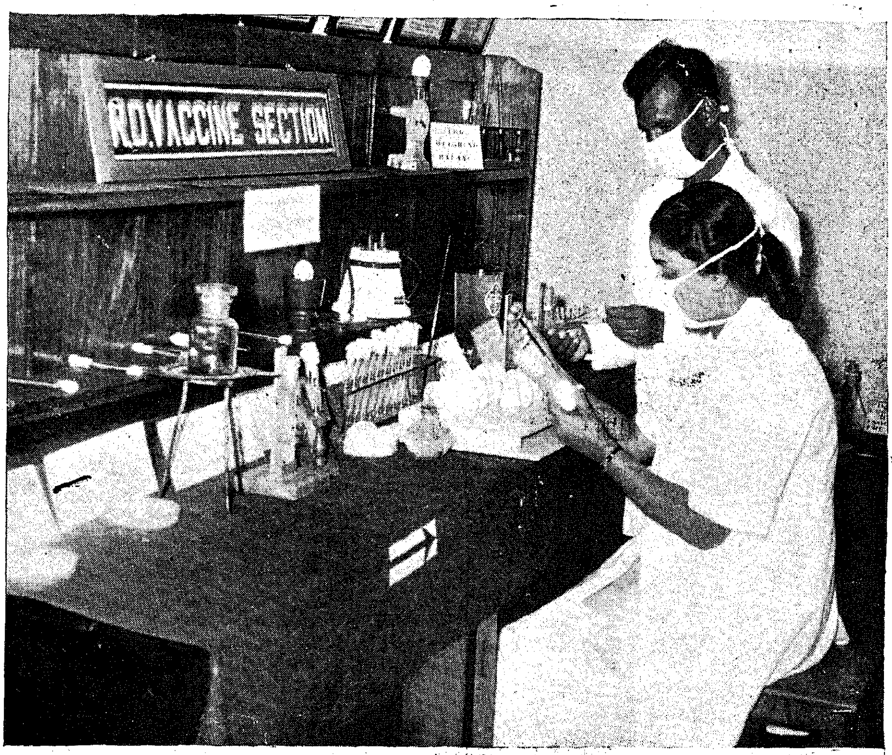
Research Activities.

Simultaneously, experiments were started to adopt the local strain of Rinderpest Bovine Vitus to rabbits, to produce a mild, cheap and efficient vaccine for the control of Rinderpest in the State. Great success was achieved in this work and it has been possible to evolve a new strain of Lapinised Rinderpest Vaccine at the Institute. This vaccine has been tested on local breeds of cattle and buffaloes and found to be quite safe and potent. The product has to be tested on foreign breeds of cattle and animals highly susceptible to Rinderpest.

As a result of further research studies carried out, improved and potent vaccines have been produced for the control of Hæmorrhagic Septicaemia and Black-Quarter, by the addition of adjuvants like alum, liquid paraffin, mineral oil, lanolin, etc., to the routine broth bacterins. The H.S. alum precipitaled and oil adjuvant vaccines have been tested extensively both in the laboratory and in the field with encouraging results. These new adjuvant vaccines confer a much better and lasting immunity than the broth vaccines in use hitherto. The alum added Black-Quarter Vaccine is also found to have high immunising qualities as compared to the routine vaccine in use. A vaccine for the control of Johne's disease in cattle has been prepared at the Institute and is under experimental study.

F.A.O. Assistance.

During 1952, the Food and Agriculture Organization of the United Nations provided this Institute with the services of an expert, Mr. G. G. Alton, for manufacturing Rinderpest



Vaccine which will counter Ranikhet and New Castle diseases is produced in the Institute. Eggs are inoculated for the production of the vaccine.

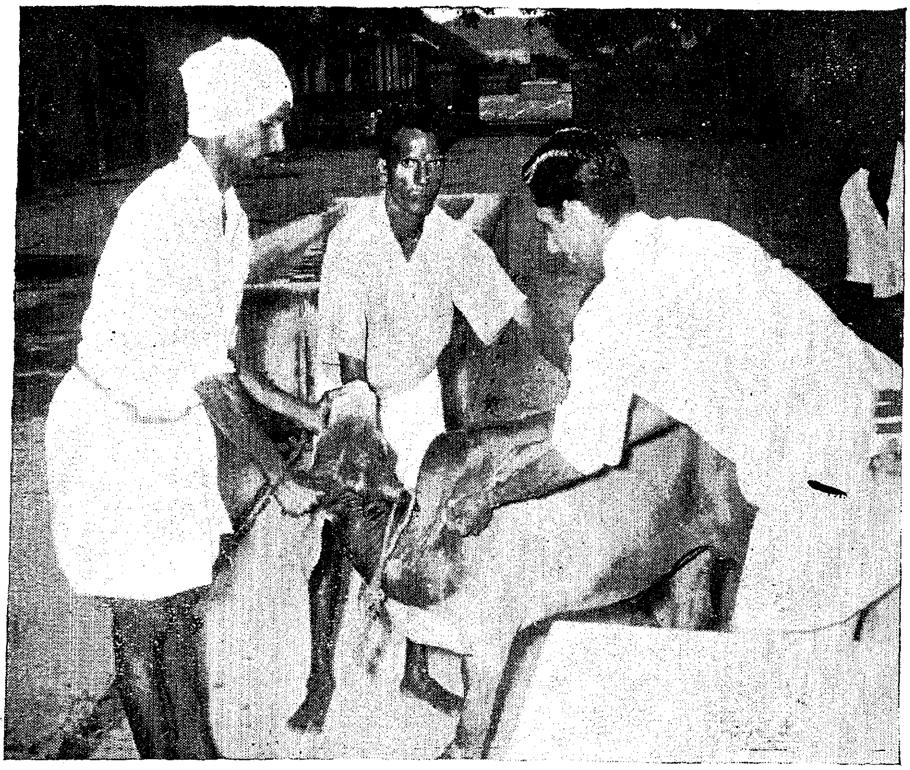
and other Virus Vaccines in a freeze dried form and to train the staff of this Institute on the modern methods of vaccine manufacture. They in addition supplied this Institute with a freeze drying machine and other equipments costing about Rs. 30,000 necessary for the freeze drying of vaccines and for carrying out research. With the help of this expert and the equipments supplied, the manufacture of the different virus vaccines for Rinderpest, Ranikhet Disease, Fowl Pox and Sheep Pox in freeze dried form using modern methods and technique was commenced at this Institute and these vaccines are now supplied to the field staff in the freeze dried form only. The production of these vaccines in this form has resulted in considerable economy as their bulk is much reduced, making it easy for storage and transport and in addition, has also improved its keeping qualities, as it could be stored in a deep freeze cabinet at—20°C without loss of viability for a period of over two years. The F.A.O. expert worked in the Institute for a period of 15 months and trained the members of the staff in the handling of the freeze-drying equipments and manufacture of vaccines using modern methods and technique.

After the termination of the expert's assignment, a post of Special Officer for the manufacture of Rinderpest and other Virus Vaccines in the freeze dried form was created in 1954.

During this year the name of the Institute was again changed from "Veterinary Biological and Research Institute" to "Institute of Veterinary Preventive Medicine, Ranipet."

In February 1954, the Ranikhet Disease Vaccine Section which was functioning at the Madras Veterinary College was transferred to the Institute with the staff, equipments and a poultry unit and subsequent to this, the Ranikhet Disease Vaccine is being manufactured and supplied to the staff in the freeze dried form in the place of the liquid vaccine supplied hitherto from the College.

To facilitate further research work and to accommodate the animals under different experiments and tests, a few more equipments, a dozen isolation sheds and an animal house for breeding and rearing small experimental animals like rabbits, mice, guinea pigs, etc., were added on. The room where freeze drying work is carried out was air-conditioned to improve the efficiency of the machines and the products maufactured. The construction of an incubator room has been sanctioned by the Government and the wrok is expected to be taken up shortly. Quite recently, the facilities at the Institute have been improved by the addition of a steam generator (boiler) and a horizontal steam sterilizer. The Institute is now fairly well equipped for manufacturing almost all the biological products necessary for controlling the various epidemics of livestock in the State and also for undertaking research in this direction.



Serum to control Haemorrhagic Septicaemia a highly infectious and fatal disease is produced in Ranipet Institute, for the last twenty years.

Besides meeting the demand of the staff of the Animal Husbandry Department in Madras and Andhra States, the biological products manufactured at this Institute have also been supplied to other States in the Union like Bombay, Uttar Pradesh, Madhya Pradesh, Mysore, Kerala and Pondicherry and other places like Ceylon.

The biological products prepared at this Institute are supplied to the staff of the Animal Husbandry Department in Andhra State on a no-profit-no-loss basis as per Section 60 of the Andhra Partition Act from the date of partition on 1st October 1953.

During the disastrous cyclone of 1955, which hit the four districts of Tanjore, Tiruchirappalli, Madurai and Ramanathapuram, the Institute manufactured and supplied large quantities of Hæmorrhagic Septicæmia and Black-Quarter Vaccines to protect the cattle of these districts from Hæmorrhagic Septicæmia and Black-Quarter and saved them from these diseases.

I.C.A.R. Schemes.

The following three research schemes partly financed by the Indian Council of Agricultural Research are in progress at the Institute :—

(1) Scheme for the improvement of Hæmorrhagic Septicæmia Vaccine and the manufacture of a combined vaccine for Hæmorrhagic Septicæmia and Black-Quarter.

(2) Scheme for the improvement in the technique and methods used for the manufacture of Virus Vaccine.

(3) Scheme for the survey and control of Brucellosis in Madras State.

During the first Five-Year Plan period, the Institute manufactured and supplied freeze dried Rinderpest Vaccine for use in the area covered by the Pilot Project and it is one of the

centres for the manufacture and supply of freeze dried Rinderpest Goat Tissue Vaccine for use under the National Plan for Rinderpest eradication in the country.

For convenience of working, the Institute has a member of sections, each section preparing biological products for the respective diseases and undertaking research on the manufacture of improved and new products.

Achievements.

From a modest beginning in 1932, commencing with the manufacture of Anti-Rinderpest Serum and Rinderpest Virus, this Institute has gradually developed and expanded its activities in the course of the last 25 years and is now fairly well equipped with the necessary buildings, apparatus, equipment, facilities and staff to undertake research work on the different animal diseases and the manufacture of suitable biological products on modern lines for their prompt and effective control.

The control of the major contagious and infectious diseases of livestock is no more a great problem in the State as this Institute is now manufacturing necessary biological products for the purpose and by the timely use of these products in endemic areas, the valuable livestock can be saved from the ravages of these diseases and the livestock owners saved from the economic loss.

Madras State has been free from Rinderpset for the last four or five years and this is not a little due to the prompt and timely supply of necessary biological products from this Institute.

It has been the constant endeavour of the institute to strive for the manufacture of quality biologicals to protect and preserve the livestock of the State from the ravages of the different contagious and infectious diseases.

Financially, the establishment of this Institute has proved to be a very sound one, as almost all the products required for use in this State are now manufactued economically and that a much cheaper cost than the rates prevailing in similar institutions in the country.

The cost of manufacture of each product is worked out annually on a pro forma commercial basis and the financial savings to Government worked out each year by the Accountant-General, Madras. It will be seen from the statement attached that considerable savings have resulted to Government from this Institute and the Institute has been run on the most economic lines.

Due to the ready availability of necessary biological products at the Institute, it has been possible for the Animal Husbandry Department of the State to effectively control the various contagious and infectious diseases of livestock promptly and to forge ahead with ambitious plans for the development of livestock in the State in the Second Five-Year Plan period.

Sale of Khadi

Total sale of Khadi by Khadi Department during the month of October amounted to Rs. 7,46,798. Khadi sold through departmental depots amounted to Rs. 1,01,171. The rest was sold through Intensive Khadi Centres. Total production of Khadi during the month is 216,377 yards worth of Rs. 4,04,610 and Silk production of 1,120 yards worth Rs. 12,382.

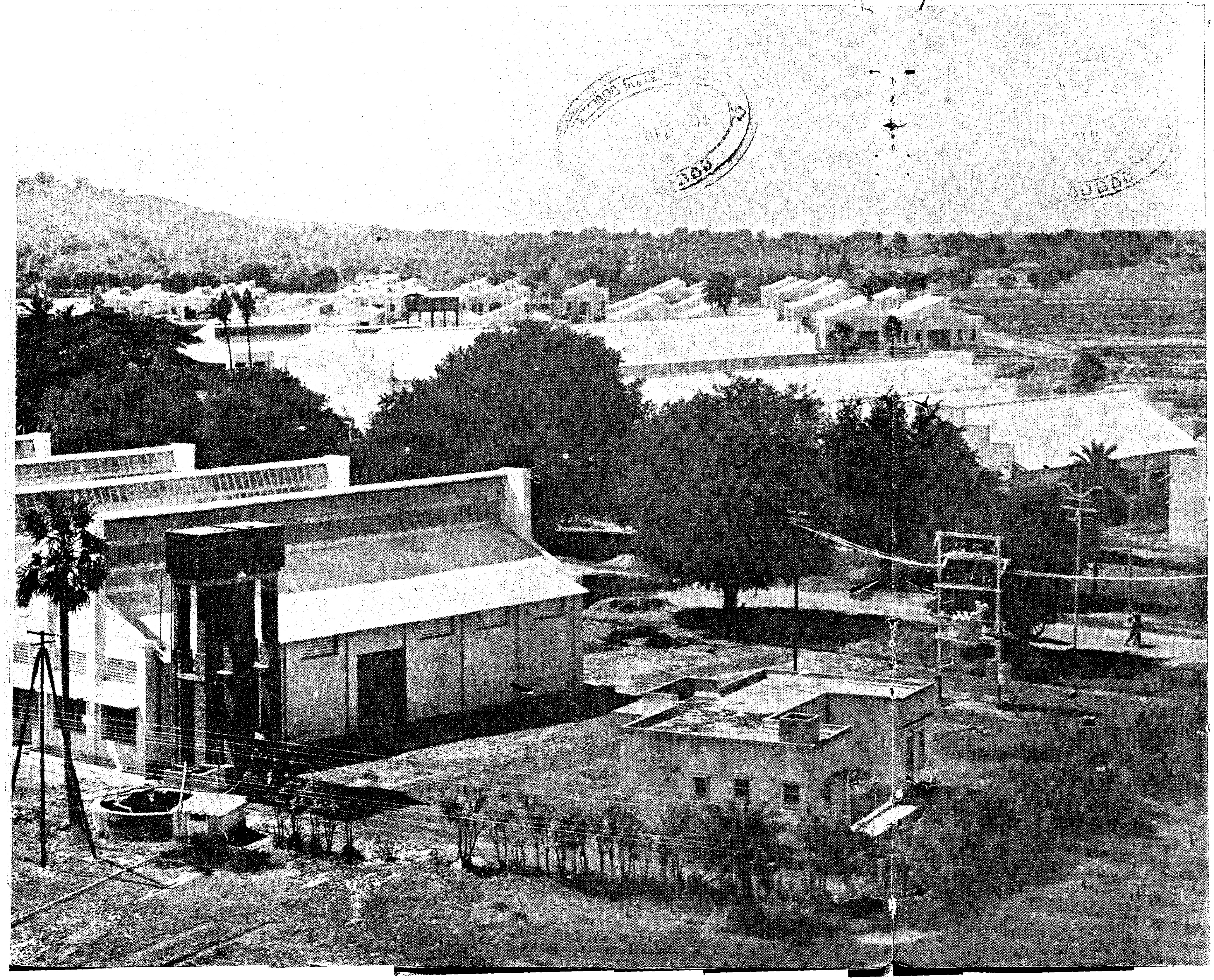
Vidur Project Sanctioned

The Vidur Reservoir Project costing Rs. 55·16 lakhs has been sanctioned for immediate execution. The scheme comprises a reservoir of 550 million c.ft. capacity across the Varahanadhi river about half a mile below the confluence of the Thondiar river with it and a 11-mile canal from the left flank end of the dam. The total cost of the Scheme including indirect charges is Rs. 61·37 lakhs. The cost of the project will be apportioned between the States of Madras and Pondicherry in the proportion of 11 : 5 (i.e., Pondicherry bearing 5/16ths of total cost).

Sri Vancheswara Iyer, Superintendent of the Institute, explaining to the Chief Minister and Home Minister, some of the methods adopted in producing the serum for prevention of cattle disease.

Guindy Industrial Estate—Achievement of the year

A bird's eye view of the Guindy Industrial Estat . In the foreground is seen the new buildings of the Central Polytechnic Workshop.



Many Factories Move in

Guindy today is far different from what it was barely ten months ago. The name Guindy was for long associated only with Race Course and the residence of the titular Head of the State. But now it bids fair to become the focal point of a variety of new industries—mostly under small private entrepreneurs—in a sort of a centrifugal pattern. Within comparatively a very short period more than fifty factory buildings with all amenities for the starting of small-scale industries have sprung up in this area. The State Industries Department has done a splendid job in completing so many factory buildings in so short a period working round the clock. While all the other States except Delhi are still planning their factories, here at Guindy the Industrial Estate is an accomplished fact. About three-fourth of the Rupees seventy lakh, ninety unit Guindy Industrial Estate is completed and many factories including departmental units have moved in. The rest of the construction work is expected to be over by March next year.

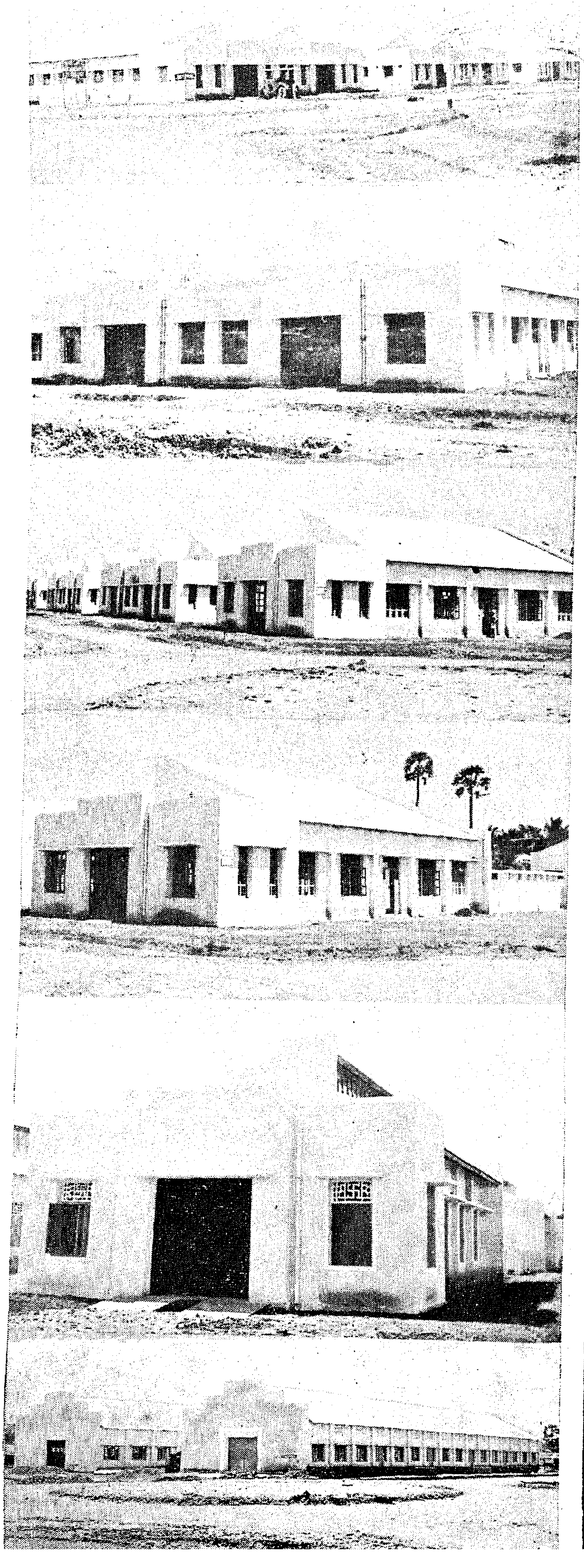
Central Polytechnic and the Chemical Testing and Analytical Laboratory under Industries Department are also proposed to be shifted to this place.

Industrial Estates are developed and planned sites with built factory spaces of different sizes available for rent or otherwise to small-scale industries providing for them facilities like supply of electricity, gas, compressed air, steam, water, drainage, etc.

While industrialization would become a marked feature of the second Five-Year Plan, the effect of such industrialization occurring in an indiscriminate way should be avoided from a town and country-planning point of view. There already exist in this State several protective and restrictive principles, legislative and otherwise, to guide and regulate the location of industries. While these restrictions have been imposed, there has been a significant lack of development and of facilities in the industrial areas set up. For this reason, special attention will require to be paid to give fillip to expansion, on a large scale of various kinds of small-scale industries by providing organized facilities.

From a small-scale industrialist's point of view, the chief obstacles in setting up small industries are the scarcity of capital and the long delays and troubles involved in having to approach different authorities for obtaining the necessary facilities such as water-supply, electricity, etc. In the first instance, the purchase of a site for the factory and also the erection of a factory building thereon and providing it with all required services and amenities consume a great part of the capital he can muster with the result that he is unable to find adequate working capital. Further, a large number of small scale industries are struggling for survival for the reason that they do not find proper factory accommodation and are invariably located in buildings in congested localities not designed for factory use and not possessing many of the essential facilities required for the industry. Many of these small units cannot afford to have special facilities such as gas, steam, etc., in view of the high cost involved and as the full capacity of the plants installed is not required. If Government provide factory space with all facilities it will go a long way in solving the difficulties of entre-preneurs and industrialist in setting up their industries. For the above reasons it is very essential to set up Industrial Estates in important centres.

Such Industrial Estates were tried in United Kindgom and some other countries run by private companies for profit and by the public sector on a more or less, non-profit basis and have been found successful in tackling the problem of slum clearance in big cities, developing industrial suburbs, planning future location of industries, assisting development of diversified small-scale or light industries, etc.



So far no Industrial Estates have actually starred functioning in this country. Almost all the States have taken up this scheme and have started acquiring suitable sites, etc., and in some places new factory buildings have already been completed. After sufficient experience has been gained in the working up of a few pilot units to be started during the current year, it is hoped that a large number of estates would be set up in the succeeding years.

Apart from the facilities which will be available in all the estates it is proposed to undertake in the estate at Madras purchase of raw materials in bulk and distribute the same at cost price to the small units to be housed there. All concessions available on account of bulk purchases, will be passed on to the consuming small industries. For the benefit of the small-scale units in the estate, it is also proposed to set up in a plot of 30 acres adjoining the estate, service centres for the manufacture of surgical instruments, scientific glass apparatus, laboratory equipment, sports goods, hand tools and electrical goods. At these servicing centres facilities will be available for testing the products of the concerned industries and for undertaking certain operations requiring costly machinery which the small units cannot afford to purchase. The Chemical Testing and Analytical Laboratory of this department is also proposed to be shifted to this place. If this experiment in Madras proves to be a success, the scheme will be extended to other estates.

After the various units in the estates have started regular production, it is proposed to set up a marketing corporation with chain stores in each estate.

The estates are being set up with borrowed capital bearing 4½ per cent interest. The cost of buildings and the land on which they stand, is a 20-year loan and the rest of the expenditure (i.e.) layout, roads, power, transmission,

From the top. A row of 'A' double Units. A single 'A' double building. A row of 'B' Units. A single 'B' Unit building. The last two pictures show a 'C' Unit and Departmental Units built to house some of the small scale industries run by Industries and Commerce Department.

water-supply, etc., is a 30 year loan. During an initial period of, say about five years, the estate will function on a no-profit basis under Government control and later, if possible handed over to a Corporation consisting of the small-scale units occupying the estate. To start with, the intending users will be given the option to take the land and buildings on the rental-purchase system or on a rental basis or on an outright purchase basis. Those who take the sites on a rental basis will be permitted to change over to the rental-purchase system at any time. An initial payment of 25 per cent of the cost will be made by those who adopt the rental-purchase system. The balance of 75 per cent will be paid in equal instalments spread over a period of 20 years. Outright sales will be subject to condition that the purchasers comply with the rules and regulations of the estate such as starting of only specified industries, etc. For general services rendered in the estate such as privision of roads, supply of electricity, etc., the capital cost will be proportionately recovered from all users. If a particular user wants to construct a building himself, he will be permitted to do so and 75 per cent of the cost will be provided as loan and he will be required to follow the building regulations laid down by the authorities of the industrial estate.

Industrial Estate at Guindy.

In order to promote the development of small-scale industries by providing ready-built factory spaces for the entrepreneurs and industrialists the establishment of Industrial Estates in principal cities and towns was suggested by the Government of India. Based on this suggestion the State Government decided to set up an Industrial Estate at Guindy besides seven more in other places. The total estimated cost of the Industrial Estate at Guindy is Rs. 70·03 lakhs and will be given by the Union Government as loan at 4½ per cent interest repayable in 20 years.

It is programmed to construct 90 factory units in the Industrial Estate at Guindy out of which the construction work relating to 52 units is nearing completion. Tenders have also been called for the construction of the remaining 38 units and it is expected that the construction of the entire 90 units will be completed before 31st March 1958.

The following are the details of factory units provided in the scheme and that are under construction :—

		Number provided.	Number started.
A single	..	5	..
double	..	16	12
B single	..	6	1
double	..	14	12
C single	..	7	7
double	..	42	20

Allotment of Factory Buildings.

So far 83 applications have been received for the allotment of factory space. four units have been allotted to the Government of India Footwear Centre. The allotment in respect of 45 factory units has just been finalized and orders will be issued soon. At least 10 to 15 industries will occupy the buildings and start functioning in the Industrial Estate, before the middle of October and many of the rest will be in the process of setting up their factories.

Departmental Units.

For providing servicing facilities to the small industries housed in the Industrial Estate, the following 11 departmental units at a total cost of 87·47 lakhs have been proposed to be set up besides one Saranjan Kariyalaya and Central Ambar Charka Workshop at a cost of 11·02 lakhs. The Saranjan Karyalaya has been completed and has started functioning since the 2nd August 1957. The Ambar Charka Workshop building has been completed.

(1) *Manufacture of Hand Tools.*—A Service Centre for the manufacture of hand tools has been programmed to be set up at a cost of Rs. 10·3 lakhs. One building out of the two is completed. Orders have been placed for machines worth Rs. 6·5 lakhs. Machines amounting to Rs. 1·5 lakhs have been already received and erected. Shipment advice regarding machinery worth Rs. 2 lakhs has been received and the unit will start functioning shortly.

(2) *Sports Goods Unit.*—A Sports Goods Unit set up at a cost of Rs. 1·81 lakhs has started manufacture of goods. The buildings for this unit are completed and the machinery installed.

(3) *Servicing Corporation.*—Cost of the scheme is 4·5 lakhs. This Corporation is intended to supply raw materials, etc., required by the various small units at reasonable rates. This has already been registered as a registered stock-holder and indents have been raised for the initial allotment of iron, steel and coal. The Deputy Chief Mechanical Engineer, Railways, has also agreed to supply Railway scrap to the small industries through the Servicing Corporation. It will be possible to buy the scrap and demonstrate the working of this unit before the end of this month.

(4) *Surgical instruments.*—Total cost of the scheme is 6·60 lakhs. The building work is completed. Orders have been placed for machinery worth Rs. 3·8 lakhs of which machinery worth Rs. 25,000 have been received. This cannot start functioning.

(5) *Electrical Goods.*—Cost of the scheme is 17·7 lakhs. Building work is completed. Machinery to the value of Rs. 4·15 lakhs have been ordered for this unit.

(6) *Laboratory ana Scientific equipment.*—Building work is nearing completion and will be completed by the end of September 1957.

Machinery to the value of Rs. 21,000 out of Rs. lakh have been received.

(7) *Technical Information Section.*—Total cost 7·07 lakhs. This will be started in a nucleus scale in one of the buildings completed.

(8) *Pressure die casting plant.*—9·69 lakhs*.

(9) *Model Foundry.*—(5·46 ~~lakhs~~)*.

(10) *Wood Working Unit*—(8·32 lakhs including expansion)*.

(11) *Glass Factory**.

* Building works likely to be started only during the current year.

It will be seen from the above that out of the 11 departmental units proposed to be established in the Industrial Estate, about 5 units will be functioning by the end of this month.

* * * *

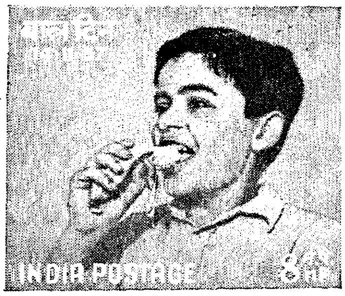
The Government have sanctioned a Rs. 10-lakh scheme for the supply of mid-day meals to primary school children in the State by providing grants to supplement local donations. The scheme has been sanctioned for implementation from 1st November 1957 and will extend to all rural and urban areas in the State except the City of Madras, for the benefit of poor pupils reading in standards I to VIII, provided there is sufficient local support for the scheme, in the form of donations in cash and kind from the local public, to the extent of at least 6 nP. per meal. The Government grant will be calculated at the rate of the amount by which the actual expenditure exceeds 6 nP. per meal per pupil.

Care of Children

By. DR. S. T. ACHAR.

The 14th of November is dedicated to the children of India and observed throughout the length and bredth of this resurgent country as Children's Day ; this day is also the birthday of our beloved Prime Minister, Jawaharlal Nehru. His interest in children is spontaneous and he has shown it abundantly in always finding time to spend a few hours in the company of the children of the locality, wherever he goes, in India and abroad. It is fitting that the Indian Council of Child Welfare has chosen this day to celebrate children's day, and as the peak day of the week devoted to children's rallies, baby shows and other activities ; the aim is not only to give pleasure to children but also to educate public openion on the various aspects of child care.

Too often, in our country, and perhaps, elsewhere too, a day devoted to a particular purpose, like Vanamahotsava for instance, is celebrated with enthusiasm ; and then the purpose is forgotten till the celebration falls due again, next year. This happens when the purpose is not near to our hearts ; this should not happen with the purpose of children's day. The challenge to care for children and produce the best youth possible, pledging our fullest resources, is something that must be taken up, as a continuous national responsibility ; for the old saying is true today too, that " a nation marches on the tender feet of the young ".



A facsimile of a postal stamp issued by the Union Government in connection with the Children's Day Celebration.

Health of the children.

Child care is a wide subject ; children's health is a most important aspect of it. It is the bare truth that due to various reasons, the standard of health of the majority of children in India is among the lowest in the world today. Not only is the rate of infant and child mortality very high (available figures show that this rate is one of the three or four of the highest in the world) ; but also the condition of the surviving children is appalling since they are weak in body and mind and exposed to the dangers of preventible diseases, such as T.B., bowel disorders, etc., which are rampent in our country.

A radical change from this deplorable condition is a challenge that has to be met, if our next generation has to stand comparison favourably with the youth of other countries. We have to realise the importance of health and good physique of the children in the march to progress of the nation. All the Western countries, both capitalistic and communist as well as some resurgent countries in the East have forged ahead in this field, the past 50 years. In Great Britain, the United States of America, Sweden, Russia and more recently in Japan and Chnina (to mention only some countries as examples), child care has produced results that are tangible and remarkable. Infectious disease like diarrhoea and tuberculosis, which are accepted here as part of children's existence, have been, in those countries, reduced to a low incidence, and yet, 50 years back, these diseaes were nearly as common there, as they are with us now. But the conditions were changed ; the use of the knowledge gained from a study of the Science of Nutrition to the proper feeding of infants and children, and the ' doing away ' with bad traditional practices, were combined with increased availability of foodstuffs and priority given to children with regard to milk and protective foods. The results have been that babies are heavier and bonnier than the babies of the previous generation ; the school-going child is normally taller and heavier than his counterpart 30 years ago ; even the average birth weight of infants has gone up in the past few decades, due to better nutrition of the pregnant mothers. Enviornment has been so improved that there is less chance of the spread of infectious deseases like bowel diseases, tuberculosis, etc. Preventive inoculations protect the children from infections like diphtheria, whooping cough and tetanus, still not completely eliminated from the community. These higher standards of children's health, standards which have contributed to the happiness of families and the strength of the nation as well, are the results of the application of scientific knowledge to social conditions ; and these results have been achieved in a few decades.

No cause for despair.

If in India, we find a different picture, if we find bowel disorders, typhoid and tuberculosis rampant among children and our hospital wards overflowing with cases suffering from these and other perventible diseases like diptheria and whooping cough, still we need not despair. The situation in America and Europe in the last century was no better, and yet they have been able to eliminate all these by preventive measures. It is within our power to achieve the same results, if we all determine to create for our children, the conditions of optimal growth and freedom from disease.

To many of us the word ' Child care ' brings to mind the picture of some one examining sick children or of prescribing medicine suited to the child and the disease. This is however, a very limited ideas. For example, we can go on treating tuberculosis in children by even opening special children's T.B. hospitals ; or we can have additional big wings in hospitals to receive diptheria cases ; or we can have physio-therapy centres on a large scale to treat disabilities and deformities resulting from infantile paralysis. Treatment for disease is necessary and all-important from the individual point of view, but for the sake of the community at large, it is even more important that the prevention of all these diseases should be

attempted on a mass scale ; it can be done. Diarrhoea is rampant in Madras, for instance ; it can be prevented by studying the particular germs that are responsible, by detection of those people who harbour and by elimination of flies. Money spent in this direction is well worth while. Similarly one may consider tuberculosis which often takes a severe form in childhood by affecting the brain ; (over 200 such children with T.B. brain were admitted in 1955 in the Madras General Hospital alone and the number is increasing from year to year in the contrast to the marked decline in the West). This problem should be tackled not just by increasing the facilities for treatment ; but there should be preventive measures to protect the child from acquiring the infection so early. This can be done by ensuring that the child does not live in the same house with some one suffering from T.B. and by immunising the child soon after birth with B.C.G. to protect the child from picking up the infection in the house or from the street at such an early age.

Prevention of diseases.

Again diptheria and whooping cough are rampent over 300 cases of diptheria are admitted into the General Hospital, Madras, annually. These can be prevented as in the case of small-pox, by inoculation in infancy.

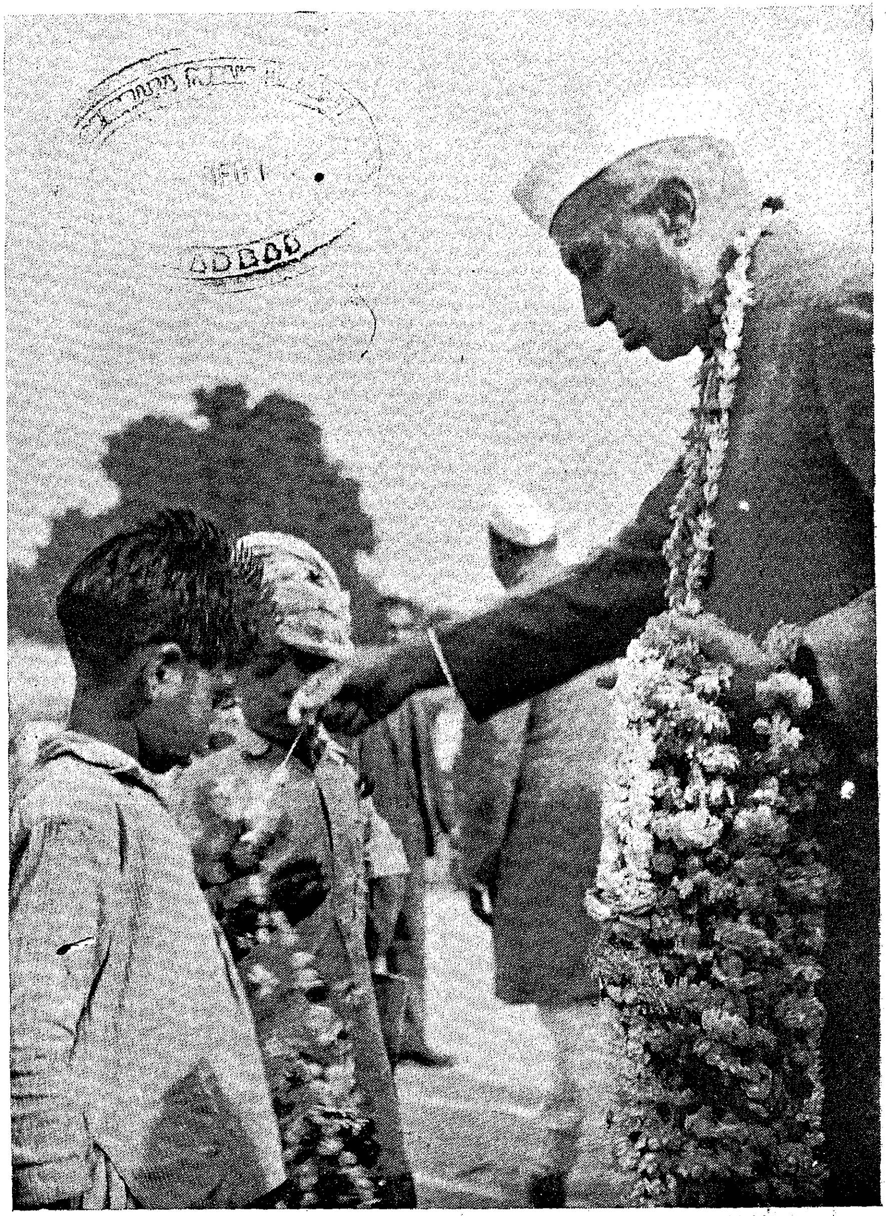
Leprosy is another slow poison, beginnings of which are found in childhood, contracted by close contact with an adult case in the house; this danger can be prevented by separation of the child from contact with the infectious case.

Evil of Malnutrition.

Besides preventible diseases, malnutrition is another evil our children suffer from. It is a great pity that the majority of our children get hardly any cow's or buffalo's milk, because the quantity produced in the country is not enough. Even the insufficient quantity available is not earmarked for children, as was done in England during the War and post-war years, when the adults, rich or poor, had to put up with black coffee and no milk or milk products. It is heart rending to see effects of milk deprivation, among our children; the child ceases to grow, and looks peevish and big in size due to swelling of the body with water. The child may die of this condition; but there is little cause for rejoicing when the child survives, enfeebled in body and mind. A visit to the out-patients department of any hospital or to a child welfare centre or slum area is sure to provide a spectacle of an array of such children who are the future citizens of India. Surely something must be done to prevent the continuance of such conditions.

It requires all the resources of the nation to tackle this problem with high priority and for children even in the poorest families to get some of the available cow's or buffalo's milk. Steps to explore the possibility of indigenous vegetable protein rich foods like bengal-gram, etc., and devising of ways and means to distribute these to these children ; dissemination of knowledge of correct infant feeding methods under Indian conditions ; these are some of the steps that might bring about a change in the situation in our own lifetime. It is gratifying to note that the Indian Council of Medical Research financed by the Government of India is well appraised of the situation and has taken steps under the Second Five-Year Plan to further research and

(Continued on page 25)



People give him all the attention and adoration wherever Nehruji goes, but he is drawn more to the children, the citizens of tomorrow.

[library stamp]

The Dreams of the Child are

The Later Realities of Man

By Sri K. CHANDRASEKARAN

Not every one can bring up a child; not every mother that has given birth to children knows not to mis-shape them. For, every child is a replica of God Himself in human form. The adage in Tamil " God and Child have both to be endeared " confirms the significance to be attached to the childs' imagination.

The normal infant, the moment its powers of observation become stimulated, starts on a hundred mischievous activities. The child's enthusiasm for all objects on which its eyes alight, naturally draws it to them, to touch them, to handle them, in short, to possess them. Therefore, the child becomes irresponsible soon after it develops a capacity to observe life around. The fire, sharp-edged knife, the biting ant, the snake—almost all dangerous things, which to the adult are repelling, seem, to wean away the childs' fancy to the extent of adding to its desire to touch them.

The adults' duty, hence, to the child is not to strike terror in its heart, but to stir its imagination in a manner so as to instruct its mind. If the child is constantly scolded or reprimanded for committing mistakes, according to elders, or from spoiling things unwittingly, it will only develop a fear-complex as years roll by. Instead of harsh language being employed to the child or severe punishment being meted out for any of its serious acts of spoliation, the child, if in time guided properly by its imagination being touched, better results will follow. Indeed, stories and fables describing qualities of prowess, heroism, truthfulness, service, kindness to animals, tenderness to younger children, and a host of moral, mental and physical sources of strength, easily make the growing mind self-educated. Further, the story and the fable, especially when it belongs to our *puranas*, has a tendency to inculcate in tender years a sense of values in the infant. Right and wrong as well as greatness and goodness appeal to the child in a more vivid way by the story than by any piece of advice or admonition adminis tered directly.

' All the world is a stage. . .' and these children are preparing to play their part well.

Great educationists all over the world, like Madame Montessori and Rabindranath Tagore, have successfully made experiments in child-education and have proved how the child's healthy imagination can be wonderfully employed by the age-old practice of story-telling.

With the gradual disappearance of the joint Hindu family, the place of the grand-mother too in it has vanished. Like of old she does not gather round herself the little urchins of the home and the neighbourhood for regaling their imagination with beautiful stories culled from our ancient *puranas*. Every time the grand-mother narrated the same old story, her imagination too clothed the old episodes with new decorations and in fresh costumes. Apart from the child's mind reacting properly to the virtues emblamed in the *puranic* lore, the child's latent potentialities also present fine prospects for out-doing themselves. The child's perception of life receives also an unusual incentive to put forth its own personality in creative activities. More effective and convincing will be the panorama of figures of the heroes of old in the mind of the child when its imagination is deeply stirred by stories retold with vigour and vividness than all the pictures presented by Movies, even when their theme is a special one intended for children's consumption. Even as the little flower on the grass smiles with the first ray of the sun, even as the little calf frolics about with its first mouthful of milk, even so the child when enlivened by the story transports itself into a dreamland of wonderful existence. The dreams of the child are indeed, the latter realities of man.

Parents' Role in Industrialised Society

By Srimathi SAROJINI VARADAPPAN

During the last many years attention is being paid in an increasing measure to the education of parents on problems of child welfare. This work is stressed as essential all over the world and, therefore it is true much time and energy is spent on it. Schools offering courses on parent child relationship, case work, juvenile delinquency, medical and pedagogy problems and marriage guidance are functioning for the education of parents in the industrially advanced countries where both the parents are wage earners and workers. Before the appearance of the industrialised society, the family was primarily responsible for the bringing up of children. With the emergency of an industrialised society, fundamental changes have taken place in all spheres of life, destroying the very important role that family was playing particularly in the bringing up of children. This led also in the west to fundamental and violent changes in the relation between husband and wife, parent and child as well as in the role of the family in educating children. Therefore, it has become necessary for the State to take over some of the functions of the family and society by starting various welfare measures and public services for children, mother and others. As result of the family losing a series of its inherent and rightful functions, such as safeguarding the health of the children, radiating love and affection on the members of the family giving much needed company to children, answering their questions and playing with them, the Society and the State were compelled to step in and undertake certain obligation for the children, or at least for some categories of children. But the parents are not completely exhonorated. On the other hand, they are expected to contribute to the systematic development of the 'social care' of the children when the 'family care' of the children has been denied to them. The parents in industrially advanced countries are fully aware that all the needs of the family and children could be met only if they themselves fully seconded the efforts of the Society and the State. Today we constantly meet with conflicts between the old and the new. Old conventional family relations which were socially necessary and justified did not lead either to family or personal conflicts. Every member of the family had his own duties and responsibilities to the family and the children.

In the altered marriage relations the place of child in the family has completely changed much to the disadvantage of the child. All the changes, particularly personal conflicts behaviour of the child and the parent arising out of a broken home, drunkness, etc., affect the normal healthy growth of the childs personality. Most shinking examples of this is noticed in the problems of family relations in towns and industrial centres inhabited by young people coming from the rural areas who are suddenly cut off from old traditions. Illegitimate children, and domestic quarrels and crimes—these are mainly the new phenomena. Therefore, there is need for a new approach to the problem of family relations with a view to enable the family to live in harmony which is very essential for the child.

One of the basic functions of the family in an industrial society today is to secure for the child its healthy emotional development and mental security. In the last few years the importance of the family circle for a sound physical and mental development of the child is stressed as of paramount importance. Recent investigation along these lines in the advanced countries of the west give us an insight into the whole problem. In any proposed centre for parents, its main aim should be (1) to aid parents in educating and bringing up children, (2) to inform parents of the various problems of education, the health and social child welfare, (3) to teach parents about their duties and rights in educating and bringing up children, (4) to inform parents of the instructions and organisations which could give them children the necessary education rest and recreation and (5) to emphasise the importance of a healthy happy family life.

(Continued from page 23)

trials of indig ous suitable vegetable foods for the children, in place of milk that is scarce. The public needs to be altered for many reasons.

Tow measures seem all important. One is that the highest priority must be given to making available to all children, such food and environment, care as will make it possible for them to grow up in health; the other is that all who deal with this problem from the highest level to the lowest from those who administer the country's health, or those who teach the medical students and undertake research, down to the *gramsevika*, should be constantly aware of their responsibility and of how to use the available resources and knowledge. Thus may our children be bright and bonny and Bharat-Mata like the Roman Matron of old, may point to them with pride and say "Here are my jewels!" (Contributed at the kind request of the Indian Council of Child Welfare).

(Continued from page 11)

loan of Rs. 12·46 lakhs, being 50 per cent of the cost and development of the land and cost of construction of buildings and an equal amount as subsidy. The actual cost of the scheme has exceeded the sanctioned cost, and the extra expenditure will be met by the State Government.

The maintenance of the houses in both these colonies has been entrusted to the Labour Department. A Managing Committee has been constituted for this purpose with two representatives each of the employers and employees and the Labour Officer, Madras, as the Chairman. This Committee is responsible for the allotment of houses according to the rules drawn up for the purpose by the Government and for the general maintenance of the colonies.

Eighty two houses in this colony have so far been allotted by the Committee. Drinking water-supply now available in the colony is limited. Special efforts are being made to expedite the provision of adequate water-supply, sanitary arrangements, school, shops, etc.

Price Stabilisation Board Suggested

Foodgrains Enquiry Committee Report

The Report of the Foodgrains Enquiry Committee has been released on November 19, 1957. The Committee was appointed cn the 24th June last with Shri Asoka Mehta as Chairman, Shri Thirumal Rao, M. P., Shri S. F. B. Tyabji, M. P., Shri V. N. Tivary, Raja Surendra Singh of Nalagarh and Dr. B. K. Madan as members and Dr. S. R. Sen as Member-Secretary.

During the course of the enquiry, the committee visited 14 States, examined about nine hundred witnesses and received about a thousand memoranda. The Report of the Committee, which was submitted to Government early in November, contains 11 Chapters and a large number of charts and statistical tables. The Committee has confined itself to the basic problems relating to the production, distribution and prices of food-grains in the country from an over-all point of view only. It has been unable to make any special study of the recent difficulties that resulted from drought in eastern India towards the closing days of its enquiry. It has expressed the hope, however, that the general recommendations that it has made for some of these areas, if implemented, will go a long way in preventing similar distress in future.

The main conclusion of the Foodgrains Enquiry Committee is that in a developing economy a secular tendency to price rise will exist, though prices will fluctuate. It is a part of economic growth to achieve adjustments between production, incomes, employment, demand, costs, prices, etc., at successive levels. It is sharp and abrupt rise or fall in prices, which causes all kinds of disparities and hardships to different sections of the people that has to be avoided.

The Committee has noted that the general price index in India declined by 17·6 per cent between the middle of 1953 and the middle of 1955 and then rose by 23·4 per cent by the middle of 1957. The price index of manufactured goods first fell by 2·8 per cent and then rose by 10·5 per cent during the same periods. As against this price index for cereals first slumped by 34 per cent and then shot up by 51 per cent. Although in 1957 all-India averages show only a small rise (4 per cent) in cereals prices as compared to the base year 1952-53, there have been large variations in certain regions. It is this relative instability of food prices causing wide fluctuations in the incomes of agricultural producers and of costs of living, costs of production, employment and other elements of the economy that forms the major problem.

Monetary factors.

The Committee is of the view that a large part of the rise in the general level of prices in recent years may be ascribed to a general increase in demand resulting from the increase in investment expendiutre on public and private account accompanied by deficit financing and credit expansion during the last few years. As against Rs. 343 crores in 1953-54 and Rs. 476 crores in 1954-55, the plan investment went up sharply to Rs. 667 crores in 1955-56 and Rs. 761 crores in 1956-57 and is currently running at a budgeted rate of Rs. 900 crores. The money supply has gone up from Rs. 1,794·0 crores on 31st March 1954 to Rs. 2,240·2 crores on 31st August 1957 or an increase by 24·9 per cent in $3\frac{1}{2}$ years. The rise of prices is, therefore, basically the consequence of the rate of economic development and its mode of financing. The experience of India in this regard is in conformity with that of a number of European and Asian countries during the last two or three years when there has been a general rise in prices almost all over the world. Inflationary trends in India during this period were by no means an isolated phenomenon.

Demand for foodgrains.

The general inflationary forces have tended to manifest themselves through various factors on the demand side for foodgrains. In recent years there has been a change both in the volume and pattern of food consumption of many sections of the people. People who used to live on roots like tapioca and sweet potatoes are now transferring their demand to millets or coarse rice and people who used to take millets formerly are now gradually shifting over so rice or wheat. Certain data collected by the Notional Sample Survey show that with the increase in the levels of income consumption of foodgrains per capita has increased substantially in the lower income brackets while it remained fairly stable in the middle income group. In fact in a country like India where the vast majority of the people are undernourished it will be su prising if consumption did not behave in this manner. The increasing tempo of industrialisation and urbanisation in the country has also had its effect on the consumption of foodgrains. One effect of these developments is to increase the demand for marketed surplus but another is also to increase the demand for rice and wheat as against millets and minor foods. The Committee has pointed out that during the First Plan period if the consumption of foodgrains has gone up by about 14 per cent that of other consumer goods like cloth, tea, sugar, vanaspati, soap, etc., has gone up to a much greater extent.

But changes in the demand for consumption was not the only factor on the demand side. From the short-term point of view changes in the propensity to stock was even more important. As a result of sharp fall in prices stocks had fallen to very low levels by the middle of 1955. As the expectation of fall in prices was replaced in 1956 by an opposite expectation, traders were reported to have started once again to build up their normal pipe-line stocks. This operation coincided with the phase of low production and rising development expenditure and was assisted by the credit supplied by commercial banks. In 1955–56 most of the stock-building was done by traders. But in 1956–57 there was a significant change and a large part of the stock-holding was done by big and medium producers as well.

Production

While general inflationary forces as well as factors operating specifically on the demand for foodgrains accentuated the rising trend in prices, changes in the supply situation of individual crops usually initiated the uptrend in prices of particular foodgrains in different periods and in different regions. The Committee got a number of special surveys carried out by a number of official and non-official research organisations in regard to production and marketed surplus. As a result, it has come to the conclusion that there is broad correspondence between changes in production as revealed by official statistics and as disclosed by the special surveys for the years 1955–56 and 1956–57. It has pointed out, however, that the actual increase in production during the First Plan period, i.e., in 1955–56 over 1949–50 was of the order of 13·7 per cent or roughly 7·3 million tons of foodgrains as indicated by the production indices issued by the Ministry of Food and Agriculture and not 20·8 per cent as indicated by the unadjusted figures of production. The increase of 7·3 million tons during the First Plan period does not appear to compare unfavourably with the target of 7·6 million tons.

There was, however, a fall in production of millets to the tune of over three million tons in 1955–56. It was this fall which initiated the price uptrend in the autumn of 1955. The prices of millets rose sharply at first. As a result, there was an increased pressure of demand both on rice and wheat. In 1956–57 there was an increase in the production of rice and wheat as well as millets. But the production of millets was still over two million tons lower than in 1954–55. Hence, the pressure on rice and wheat from the normal consumers of millets continued during that year too. Larger supplies of wheat were available from imports and, therefore, the rise in wheat prices was relatively less towards the end of 1956–57. As regards rice, prices at first showed a declining trend in 1956–57 as crop prospects were good, but tended to firm up in earlier months of 1957 as it became clear that the market arrivals were slower than usual and that stocks with Government were also low.

Marketed surplus

The Committee, has, however emphasised that it is variations in marketed surplus even more than variations in production which are important from the point of view of prices. Unfortunately, the information available about marketed surplus is very sketchy. Partly in consequence of this lack of data many people tend to equate variations in production with variations in market supplies which is highly misleading. The broad picture that has emerged from the data collected by various research organisations on behalf of the Committee, is that stock-holding at the farm level has increased considerably in 1956–57 as compared to 1955–56. Less than 60 per cent and in some areas even less than 50 per cent of the crop came to the market in 1956–57 within two or three months of the harvest as compared to 70 to 80 per cent in normal years. Sales in the middle, and to some extent, even in the end, of the season became relatively more important. In 1955–56 prices declined in the earlier part of the year after harvest when cultivators sold out the bulk of their grain, but rose sharply later. In 1956–57, therefore, cultivators became more cautious and tried to reduce sales in the earlier part of the season in expectation of a repetition of the experience of 1955–56 during a general inflationary situation. By acting thus in 1957 the cultivator only conformed to a long-accepted objective of agricultural credit and economic policy, which has been to improve his staying power with a view to preventing distress sales by him immediately after the harvest with a consequent sharp drop in prices.

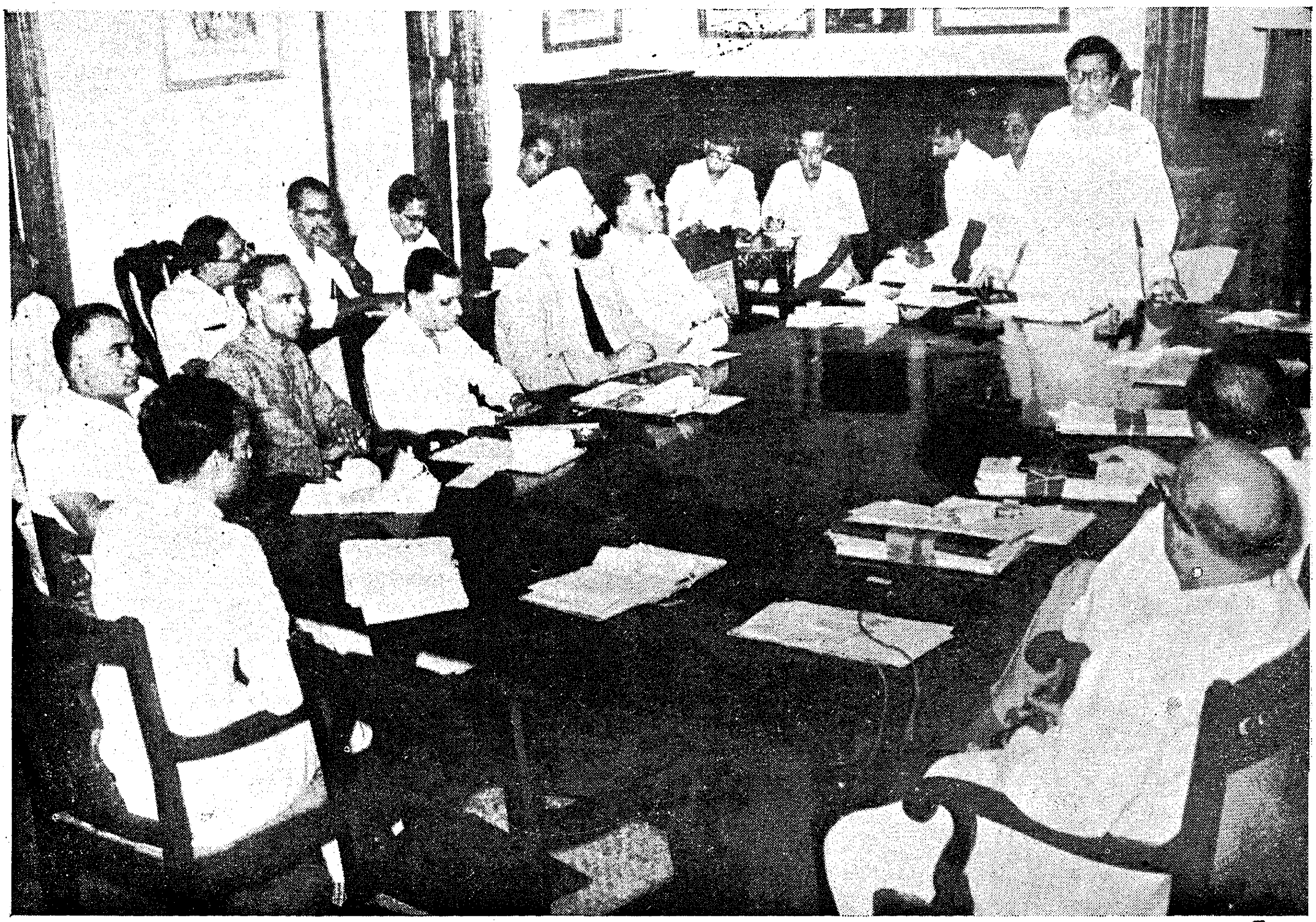
The gross availability of foodgrains per capita declined from 18·1 oz. per day in 1954 to 17·1 oz. per day in 1956. No doubt, in 1957 the gross availability per capita is likely to be almost the same as in 1954. But, if one takes into account the increased retention by the agriculturists that seems to have taken place in the year 1956–57, it is likely that the net availability per adult for the non-farm section of the population will have declined.

The Committee has noted that the ideal of food self-sufficiency could not be fully achieved because, in practice, it turned out to be a 'moving target' in a country in which large masses of the population were under-fed and even a small increase of production and of income led to a substantial increase in consumption.

Thus, in the Committee's view, the rise in prices since the middle of 1955 was essentially an out-come of monetary and other general factors interacting on certain special factors pertaining to the demand and supply of foodgrains. With a situation generally favourable to a rise in the prices of foodgrains, it was first the short-fall in production and later the slowing down in market arrivals which released the spring, as it were, and pushed the prices of foodgrains sharply upwards from the low levels to which they had fallen in 1954–55. But even in normal times there are seasonal falls and rises in prices. Similarly local fall and rise in prices or failure of one or the other food crop also are not unusual in our economy. When, however, any of these things happened in the background of a buoyant trend in the general price level caused by inflationary forces, a rise in the price of a particular grain, whether due to seasonal factors or local crop failures or governmental purchases tended every time to leave, a residue behind it as it were, a residue which usually tended to spread itself to other grains also.

Epicentres for price rise.

There were a number of areas in the country from which scarcity conditions were reported from time to time and which at one time or other became the epicentres as it were of price rise for the neighbouring regions. The publicity given to stories of distress attendant upon emergence of scarcity often started scare which set in process the familiar vicious circle of speculative



Sri C. Subramaniam, Minister for Finance, inaugurated in Madras the Small Savings Campaign for the Southern Region in the Second Week of November.

hoarding and price increases. Under normal conditions this process could not have persisted in face of the technical demand and supply position. In an inflationary situation, however, the role of expectations increases and the price tends to settle at a level higher than what would be warranted by purely technical demand and supply factors. The scarcity pockets have been classified by the Committee into four main types. Firstly, there are areas like eastern U.P. and northern Bihar which have a very dense population, extremely small holdings and low per capita income, and are mainly paddy-growing areas with heavy rainfall and subject to frequent floods and other natural calamities. In these areas the rural people live in a precarious condition and when either floods come or rains fail, there is acute distress. In the lean season, prices tend to spurt up even on a slight disturbance making these areas epicentres for further rise in prices in neighbouring areas. Secondly, there are areas like the districts of West Bengal near Calcutta with similar economic and demographic conditions where the disturbing factor is often the pressure of demand supported by high purchasing power from the neighbouring metropolis whenever prices there tend to go up for any reason. Thirdly, there are the dry areas, e.g., some of the millet growing areas of Western India and the Deccan plateau which have relatively sparse population with scanty rainfall. The yield of land in these areas is usually poor and the income of the farmers is also amongst the lowest in the country. These areas are subject to frequent drought which initiates the usual vicious circle of failure of crops followed by rise in prices, scare amongst the people, hoarding and further rise in prices. Fourthly, there are the tribal areas, e.g., in Assam or Central India, where per captia income is low, transport cost is high and the economy is not only primitive but also often isolated from the rest of the country. Any failure of the local crop leads to unusual distress in these areas. It is, however, primarily the first three types of scarcity areas where the first signs of difficulty manifest themselves. To the extent that corrective action is taken in time, scare and panicky rise in prices can be prevented. On the other hand, to the extent that there is delay in taking action in these areas even a small shortage may lead to a disproportionate rise in prices and consequent hoarding and fall in market supplies especially when general conditions are inflationary.

The Committee has emphasised that in a developing economy like ours there is always the risk that disparities

Long-term Arrangement with Burma for Import of Rice Necessary

of various types will tend to get aggravated unless special care is taken to even them out. Prices may rise faster at times due to a temporary imbalance of supply and demand. With a quickening pace of development, these disparities are likely to become greater. It should, therefore, be an object of Government policy to keep a careful watch over likely development of such disparities and take timely action to minimise their harmful effects.

Future prospects.

As regard the future, the Committee has estimated that given normal conditions, the demand for foodgrains in 1960-61 will be of the order of 79 million tons while production will be 77 million tons. There will be thus a deficit of about 2 million tons per year even at the end of the Second Five-Year Plan. If there is a sharp inflationary trend, the demand may be even higher while if there are adverse weather conditions the production may be substantially lower. Moreover, there may be additional demand on account of variations in propensity to stock. The Committee, therefore, feels that even in a normal year there will be need for importing two to three million tons of foodgrains per annum during the next few years.

Full decontrol and full control ruled out.

According to the Committee, the experience of the last few years has shown that unfettered private trade is undesirable because it tends to aggravate price fluctuations and impede the course of planned development. On the other hand full control in the sense of complete rationing and procurement that we had before 1953 does not also seem desirable under the present circumstances. The Committee feels that full control should be resorted to only in case of emergency like war or famine or extreme inflationary pressure. It should not be visualised as a permanent feature of our developing economy.

Countervailing measures.

The Committee, therefore, feels that the solution of the food problem would have to lie somewhere between complete free trade and full controls. Controls should be of a countervailing or regulatory rather than restrictive type. The main objective of the type of controls that the Committee has in view is to stabilise prices of foodgrains as also other related commodities as far as practicable. At the same time, the Committee warns that any rigid integration of the price structure is neither feasible nor desirable. So long as prices move gradually allowing costs and incomes to get adjusted, there is really not much to take exception to in such price fluctuations. Only such changes in prices as are liable to get far out of step with costs and incomes should be avoided.

Since imbalances in the economy are of different kinds and intensity, they lend themselves to treatment through varied combinations of measures of general or overall control and specific regulation adopted to the nature and severity of the particular situation. Some of these actions have to be overall, e.g., monetary or fiscal and some have to be selective, e.g., direct purchase and sale of particular foodgrains, licensing of dealers in foodgrains, etc. If, however, the magnitudes of dificit financing together with development expenditure imposes strain on the economy that makes a certain rise in prices inevitable, then any other measures that may be taken can only modify to some extent the impact of that rise in prices but cannot completely obviate it. While the general climate would be set by appropriate fiscal, monetary and credit policies, it is obvious that in the general economic and monetary situation that is likely to prevail for some time, these have to be supplemented by certain specific action directed to controlling foodgrains and also in respect of related on commodities if comparative stabilisation of their prices is desired. These measures are, however, to be used judiciously and in different combinations under different circumstances.

Prescription for different situations.

For the present, it should ordinarily be sufficient to undertake open market purchase and sale of foodgrains by the Government as a regular measure. Socialise part of the wholesale trade, exercise control over traders operating in the rest of the market through a system of licensing, maintain a sizeable reserve stock of wheat and rice, arrange for the regular import of a certain

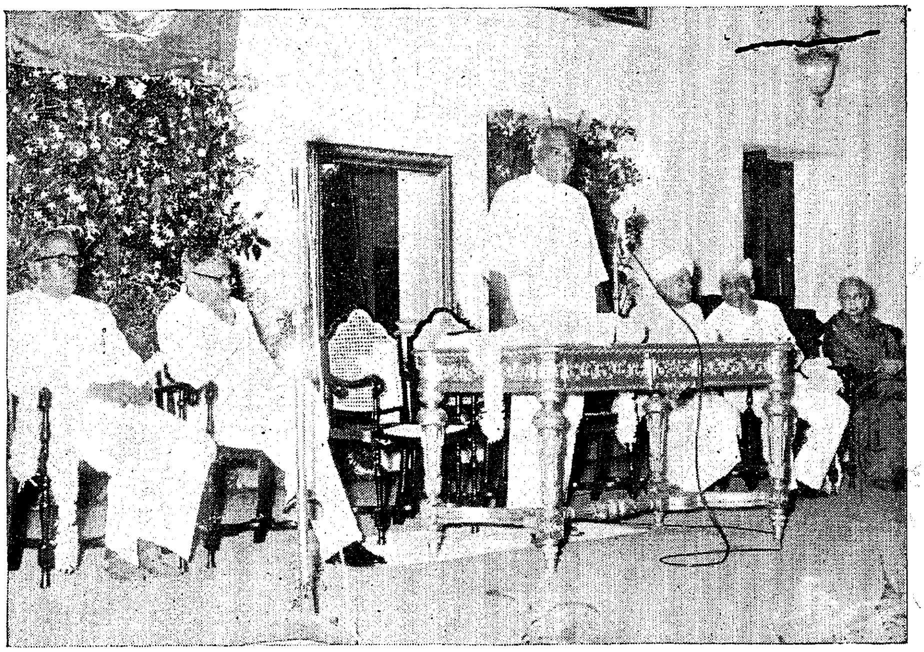
Miss Marian Anderson, the World renowned American Contralto gave performances in the City in the second week of last month. She is seen here with the acting Governor Sri P. V. Rajamannar, looking into an album of photographs of her visit, prepared by the Information Dept. and presented to her, on behalf of Govt. by Sri W. R. S. Sathianadhan, Chief Secretary to Govt.

quantity of rice and wheat and organise propaganda for the consumption and production of subsidiary food. But in a period of rising prices it would be necessary to supplement the above by much larger imports, direct sal s of cereals by Government through modified ration shops, formation of zones with a view to preventing cross-movements and undue pressure on local supplies and limited compulsory procurement by Government in surplus areas for replenishing its reserve stocks. In periods of sharper inflationary trend the above may have to be further supplemented by compulsory issue of wheat (the supply position of which is relatively easy) along with rice (of which the supply position is more difficult) from modified ration shops, announcement of prices at w ich Government will requisition surplus stocks and temporary cordoning off of big cities like Calcutta, Madras, Bombay, etc., if the overall food-situation deteriorates. In periods of sharp deflationary trends on the other hand, the action to be taken should include announcement of guaranteed minimum prices supported by accelerated purchases of foodgrains in the open-market by Government, subsidised sale of fertilizers, iron and steel, etc., to farmers and acceleration of local development works in depressed areas. The announcement and enforcement of minimum prices throughout the country should be necessary in conditions when there may be a possibility of prices falling sharply. The cultivator does require the assurance that prices will not be allowed to fall below economic levels to maintain his incentive to invest in the improvement of his farm and, thereby sustain the basis of progressive agriculture and augment marketed surplus. Announcement of a minimum price would become essential if certain areas are cordoned off for facilitating certain operations.

Price stabilisation.

Market operations will obviously have to be carefully planned and conducted from time to time in different commodities, in larger or smaller areas and in varying magnitudes according to need. It is necessary for this purpose to have an effective organisation for keeping a constant watch over the situation, making a realistic assessments not only for current trends, but also future prospects, and prescribing measures to be taken under different circumstances as well as an adequate machinery for carrying on the necessary market operations.

The Committee, therefore, recommends firstly, the setting up of a high-powered authority for the formulation of the policy for price stabilisation in general and determining the programme for enforcing it from time to time and, secondly, the establishment of a suitable organisation to execute that part of the policy and programme framed by this authority as may relate specifically to purchase and sale operat. ns in the field of foodgrains. The policy-making body may be called the "Price Stabilisation Board" composed of representatives of the Ministries of Food and Agriculture, Finance, Commerce and Industry and Railways, Planning Commission and the Reserve Bank of India with a Chairman of the status of Secretary to the Government of India. Food, no doubt, forms the core of our price structure, but prices of competing crops like cotton or oil-seeds and of industrial products like cloth, fertilizers, iron a d steel, etc., are all very important from the point of view of an effective price policy for the country and have to bear a reasonable relationship of food prices. It is only a high-level authority as proposed above, which is properly integrated into the machinery of decisions within Government on economic questions, that will be able to deal effectively with the problem of price stabilisation. As regards the executive organisation for dealing specifically with foodgrains, the Committee recommen s the setting up under the Ministry of Food and Agriculture a separate body called the "Foodgrains Stabilisation Organisation". It further recommends that a body of non-officials called Central Food Advisory Council should be set up to assist the Food Ministry and the Price Stabilisation Board. The Council should be composed of representatives of agriculture, trade, workers, industry, consumers, banking, co-operatives, leading political parties and economists. The Committee further recommends that an organization for collecting all relevant intelligence called ' Prices Intelligence Division " should be built up with a senior officer as head who will also act as Secretary to the Price Stabilisation Board. It emphasises that an all-India average index of wholesale prices cannot bring out adequately the various—regional and sectoral disparities which create difficulties in the economy. If there are



United Nations D y was c lebrated in M dras City with Great Enthusiasm. A l rg ly att nd d public me ting was als held in that connection at Rajaji Hal'. Chi f Minister Kama aj. Sri R. Venkat ram n, Minister, Dr. A. L. Mudalia , Dr. C. P. Ramaswamy Iyer and Dr. M. Varadarajanar addressed the meeting.

Priority for Import of Fertilisers

suitable regional indices as well and a careful watch is kept over them, one would be able to know from the way that pressure points develop in the economy as to what is the real source of trouble, what is the real impact of it and its likely significance in the future. For, it is these disparities manifesting themselves in different regions and different sectors which are often the early symptoms of wider imbalance in the economy.

Foodgrains Stabilisation Organisation

While the Ministry of Food and Agriculture will continue to be generally responsible for overall food administration, the Committee feels that it will be desirable to have under it a separate organisation called Foodgrains Stabilisation Organisation as has been mentioned earlier. The most important work which this Organisation will be required to undertake is what is commonly known as buffer stock-operations. The buffer stock operations can be a most effective instrument for the stabilisation of prices of foodgrains. The main idea of such operations is simple. Whenever prices tend to fall, even if such a fall is not general, but is confined to a particular locality, this Organisation should step in and start purchasing at reasonable prices. Similarly, when prices tend to rise this Organisation should sell at reasonable prices. If the Organisation starts operating from a position of strength, with sufficient stocks at its disposal and sufficient funds to invest it will soon find itself in the position of a dominant trader in the economy and will be able to control the market effectively. It will then be able to counteract the market trend seeking to depress prices when the market is rising and support prices when the market is falling. This would go a long way to protect both the producer and the consumer against violent fluctuations in prices. If the Organisation purchases the surplus crop of a bumper year and carries it over to future years of short crop, it should be able to even out fluctuations. Its own agencies in all important mandies should ensure for it a fairly substantial volume of business. Besides, it should also be able to purchase fairly large quantities from depressed pockets where compe.it on from the trade is usually weak. Ordinarily there should be no risk of loss for such an Organisation, especially over a long period of say five years. Even if there is some loss it would be a worth-while premium to pay for insurance against inability.

In the initial stages this Organisation may face stiff competition from traders. Government should, therefore, take special measures to build up a position of strength for this Organisation in the early stages, by way of credit and transport facilities. One should, of course, proceed gradually and not take any action which may unduly upset the market in the near future. But the Committee feels that step by step conditions should be created so that in the course of the next three or four years the Foodgrains Stabilisation Organisation may be in a position to control a substantial proportion of the wholesale trade in the country. The ultimate policy should be that of progressive and planned socialisation of the wholesale trade in foodgrains. The Committee points out that its proposal is by no means a very novel or revolutionary suggestion. In many important countries of the World like Canada, Australia, Burma, Italy, Japan, etc., agricultural commodities in general and foodgrains in particular have been subject to a very large degree of State intervention. It is not really necessary that this Organisation should itself undertake all the operations. It may operate through the agency of licensed wholesale dealers or co-operative societies. It may also make use of the Departments of Civil Supplies or Marketing of State Governments. In addition it may have its own purchase and sale offices too. The important thing, however, is that any agent that it may employ should not be permitted to trade on his own account.

Procurement

While the Foodgrains Stabilisation Organisation should be able to control a large part of the marketable surplus, during normal years, in the immediate future so long as inflationary trends continue and food shortage persists, open-market purchases may push up prices so that the organisation may find it necessary to stop its operations. Therefore, it will be necessary to undertake some form of compulsory procurement for replenishing the reserve stocks and maintain supplies to the vulnerable groups of the population at reasonable prices. For the present no compulsory procurement of wheat or millets may be necessary. Whatever may be purchased from the open-market should suffice. So far as rice is concerned, however, it will be necessary to resort to some form of compulsory procurement to ensure that at least 6-7 lakh tons of rice is procured from surplus areas in the country. There are several ways in which compulsory procurement may be enforced. The simplest way would perhaps be to cordon off certain areas, e.g., Orissa, Punjab, delta districts of Andhra Pradesh and Chhattisgarh division of Madhya Pradesh and make the Foodgrains Stabilisation Organisation the sole buyer in these areas for the purpose of export. It would be, however, essential not only to ensure that the prices ruling in the cordoned districts are reasonable and are not substantially lower than those obtaining at least in the harvest time in neighbouring districts but also to provide special Grow More Food assistance to the farmers of the cordoned districts to obviate any sense of grievance that the rest of the country is exploiting them unduly. If it is felt that in any area cordoning is not practicable for some reason, certain alternative systems of procurement may be tried. One alternative may be a levy on all rice and flour mills as also on all private traders making purchases in major primary mandis. Another alternative is a fixed levy of foodgrains for every acre of land which a farmer possesses above a prescribed limit, say 10 standard acres.

Price ranges

The range of prices within which the Foodgrains Stabilisation Organisation may carry on its operations may be determined every year and from time to time by the Price Stabilisation Board taking into account different relevant factors and in consultation with the Central Food Advisory Council. While a number of alternative, formula may be taken into account, the final decision would have to be taken by the Board on a somewhat *ad hoc* basis. It has been the experience of most countries that no single formula can fully cover all contingencies.

Licensing of traders

One of the key measures that would be necessary for making the system proposed above really successful will be the licensing of all dealers in foodgrains.

An order on the lines of the Foodgrains (Procurement and Licensing) Order, 1952 should be issued under which all traders and big producers in the country who may deal in and stock more than 100 maunds of foodgrains should be required to take a licence. One of the terms of the licence should be that traders will submit fortnightly returns of their stocks, sales and purchases to the prescribed authorities.

Stocks

One of the most important task of the Foodgrains Stabilisation Organisation would be to build up and maintain a reserve stock of 2 million tons as distinct from any buffer stocks that it may build up from operational considerations. It was the experience of 1955 that even a stock of 1·5 million tons was not sufficient when a real crisis began. The reserve stocks should be maintained at strategic points.

Imports

The Committee emphasises that it would not be possible for the country either to build up necessary reserve stocks or to meet the requirements of the vulnerable groups of the population without substantial imports during the next few years. Our food supplies would continue to be marginal for a long time to Come, and an annual import of the order of 2 to 3 million tons would be necessary for some years. From the point of view of the food administration import has a certain advantage over procurement. All the imported grains come through the authorities and the entire amount is available for distribution. On the other hand, procurement can only be a fraction of the production. Although during inflation procurement becomes inevitable it gives a support to the price level which does not get fully corrected when the procured quantity is released. It is, therefore, important that we should make an effort to enter into a long-term arrangement with Burma for the import of rice. It would be also to our advantage to take fairly large quantities of wheat and some quantities of rice from the U.S.A. under P.L. 480. For imports under such concessional terms not only relieve us of immediate foreign exchange commitments but also help us to build up a rupee fund which can be utilised for developmental purposes.

Food Distribution

So far as food distribution is concerned, it should be primarily through fair price shops or modified ration shops or through institutions like co-operative societies or employers' organizations. Sales from fair-price shops, etc., should be normally made on a "no-profit-no-loss" basis, so far as Government is concerned. This in itself should prove to be of benefit to a large group of people. In view of its relatively easy supply position, wheat may be issued freely up to a full quota of 12 oz. per adult per day from these shops. But the issue of rice should vary from region to region between 4 oz. and 8 oz. and should be subject to the purchaser agreeing to take the balance of 12 oz. in wheat. This will not only help in economising rice but also in popularising wheat. While sales from fair-price shops should be normally made on a no-profit-no-loss basis, there would always be a number of people in different areas served by a fair-price or modified ration shop for whom even that price will be too high. Suitable provision should be made for providing relief to such distressed groups of population. Whatever subsidy the Government can afford to pay should ordinarily be reserved wholly for such distressed groups and not distributed equally to all purchasers of foodgrains from fair price shops as is the case today. Each fair price or modified ration shop should be given a limited number of what may be called "relief quota cards". The issue of these cards may be limited to special categories of persons, e.g., expectant and nursing mothers, sick and convalescents, teen-age children of families below a certain per capita income limit. A rule should be made that in no case should subsidised grain be sold except on the basis of "relief quota cards".

Big cities

If there is an abnormal fall in production and larger imports are not available it will be helpful if big cities are cordoned off. The main justification for cordoning off these big cities will be primarily to insulate the rest of the economy from the pressure that these cities with high purchasing power might exert on the general supply. Some of these cities tend to have a destabilising influence on the prices of foodgrains in neighbouring rural areas. The cordoning off of these cities will go some way to relieve distress in these latter areas. If all individuals in these cities are provided with identity cards and a large number of modified ration shops is maintained as a normal measure, it should not be difficult to cordon off these cities at short notice.

Zones

With a view to regulating the distribution of foodgrains in the country Government have created a number of zones each comprising of two or more States during the last one year. The Committee recognizes that these zones by themselves play a useful role especially during the transition period between free trade and physical controls. But, if zones are introduced in a haphazard manner and without proper attention being paid the effect that they are likely to produce on the consumer outside the zone, there may be considerable dislocation and distress in the initial period. Prior arrangements for adequate supplies for deficit areas outside the zones should invariably be made before any scheme for zoning is implemented. Once a zone is formed it should be maintained on a fairly long-term basis so that trade patterns are not frequently disturbed. It has been suggested that it may be necessary to increase the number of zones to help the working of the Foodgrains Stabilisation Organisation. While the Committee would not rule out this possibility, it feels that one way of getting the same result without increasing the number of zones may be to exericse a greater control over long distance movement of railway wagons carrying foodgrains. In fact, if railway wagons for moving foodgrains between two points in two different States are given largely to the Foodgrains Stabilisation Organisation that would by itself go a long way to bring about the desired result.

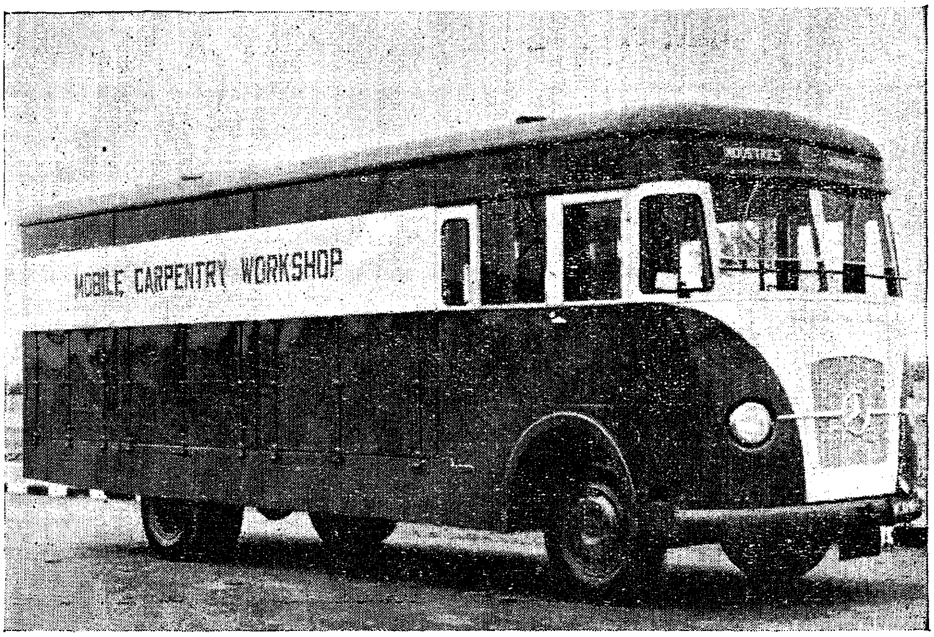
Measures for vulnerable areas

In view of the large regional disparities of price movements and importance of local price rises, the Committee recommends that a special cell or section should be set up within the State Governments with particularly heavy incidence of scarcity and also at the Centre within the Food Ministry for the purpose of anticipating difficulties arising out of possible floods and drought, locating scarcity pockets and initiating prompt measures to deal with them. Such organisations are important for preventing scarcity developing into a scare and causing speculative rise in prices in other areas. The chronic distress that obtains in vulnerable areas, e.g., eastern U.P., western Madhya Pradesh, eastern and

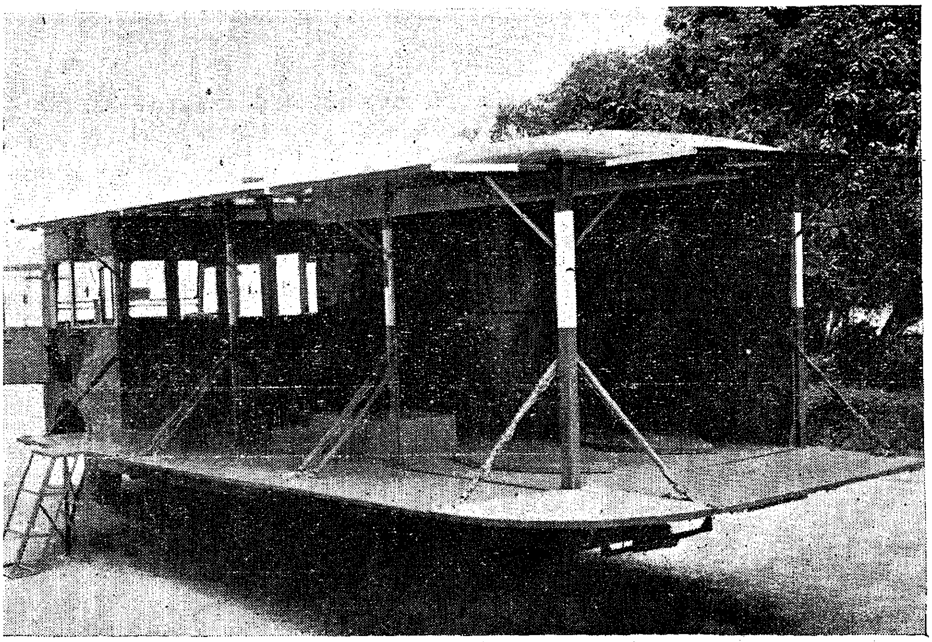
Workshop on Wheels

To popularise Power-operated Machines

To educate the people in the use of machinery both for black-smithy and carpentry trades with a view to increace production and popularise the use of small-scale power-operated machines, the Industries and Commerce Department of the Government of Madras have purchased six mobile vans for conducting peripatetic demonstration for black-smithy and carpentry trades. Two of these vans—one for black-smithy and another for carpentry—have been sent for the Tirunelveli district and two are to be sent to Cuddalore (South Arcot district) and two to Mannargudi (Tanjore district). One set of three vans will be equipped with modern black-smithy-*cum*-workshop machinery and the other three with modern carpentry machinery. These vans have been so designed as to take them into the interior villages. The vans will also be used for manufacturing building materials such as doors, windows, etc., at site and for supply to parties.



The Chief Minister, Sri K. Kamaraj, Sri C. Subramaniam, Finance Minister, and Sri R. Venkataraman, Minister for Industries, and other Ministers inspected a new Mobile Van at the Secretariat on 18th June 1957.



The workshop on wheels ready for work.

(*Continued from page* 29)

The Centre has besides, Blowing, Graduation and Grinding several other interesting sections like Neon and Glow sign, Metal deposition on glass by evaporation, glass toy making section, etc.

To supply the special glass tubes and other glassware required by the ex-trainees and other small shops, a glass factory will be established in the Industrial Estate, Guindy, at an estimated cost of Rs.8·6 lakhs as a follow up scheme and this Centre will also be moved to the same building. When the Factory at Guindy is established and a few more batches of trainees complete their training, Madras State, Schools, Colleges, Research Centres, Hospitals need not go for imported or outside laboratory and Scientific glass ware (contributed.)

Housing Colonies for Weavers at Tiruchengode and Srivilliputhur

Centre to Render Financial Assistance

Schemes for the construction of four housing colonies for handloom weavers —two in Madras, one in Mysore and one in Uttar Pradesh—have been approved by the Government of India.

Government have agreed to render financial assistance for this purpose and have sanctioned about Rs. 3·5 lakhs as a first instalment. The assistance is being given as part of the programme to improve the living conditions of workers.

Of the two schemes for Madras, one provides for the construction of a colony of 100 houses at Tiruchengode in Salem district and the other for a 100-house colony at Srivilliputhur in Ramanathapuram district. Another scheme for the renovation of the houses of the members of the Melapalayam Weavers' Co-operative Society in Tirunelveli district has also been accepted.

The colonies will be set up and managed by co-operative societies. The latter will run common plants for processes like dyeing, finishing and calendering and also arrange for the bulk purchase and supply of yarn to the weavers on the one hand and for marketing of the finished products on the other.

A ceiling of Rs. 3,000 has been fixed on the cost of construction of a house. The Government of India will meet the entire cost of construction. While two-thirds of the financial assistance will be regarded as loan, the remaining one-third will be an outright subsidy. Besides, the Central Government will also provide the cost of other amenities, like water-supply, drainage, etc.

* * *

The total sales of khadi produced by the Madras Government through various agencies during the month of May 1957 amounted to Rs. 4,77,621.

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